THE ADVENTURES OF HUMAN THOUGHT

George Boas

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The Major Traditions of European Philosophy

By

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PREFACE

As the plan of this book does not permit the inclusion of frequent quotations and footnotes, I take this opportunity to acknowledge my indebtedness to the writings of Zeller, Burnet, Windelband, Überweg, Hoeffding, Picavet, and M. Gilson, as well as to the lectures of Professors Woodbridge and W. G. Everett. This is not a book for scholars but is intended for the half-mythical "general reader." He will excuse my avoiding long preliminary explanations and apologies but will judge the book upon what he gets out of it, not by what he thinks I should have put into it.

My special thanks are due to Mr. Albert Blumberg, who prepared the bibliographies and the questions for students which are found in the appendix. The bibliographies have been confined to works in English, except in a few cases where certain works in foreign languages were thought to be indispensable.

G. B.

Baltimore, 1929

THE ADVENTURES OF
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Chapter I

THE PHILOSOPHIES OF THE GREEK COLONIES

When one begins to study Greek philosophy, one is impressed by the following facts: first, that it originated in the Greek colonies; second, that its subject matter was the origin of the world; third, that it was naturalistic as opposed to supernaturalistic; fourth, that it was rationalistic rather than mystical. Before expounding the various philosophic traditions that arose in early Greece, it may be well to throw some light on the causes which oriented Greek thought as we have suggested.

i.e., [illegible]

That philosophy should have originated upon the periphery of the Hellenic world is due to the fact that only the colonials were in touch with men of ideas. The Greeks on the peninsula were occupied with practical affairs. They had no impetus to reflect upon the origin and nature of the universe. Such questions were discussed only by the Barbarians, as they called the non-Greeks. The colonials, on the other hand, were in daily touch with barbarians. They were associating with Persians and other Asiatics, with Egyptians, with the primitive peoples of Italy. All of these people, with the possible exception of the Italians, had philosophic meat to exchange for Greek produce. The Asiatics had not only elaborate systems of mythology, but the rudiments of a scientific astronomy. The Egyptians not only had a religion which fires the popular imagination

yet was [illegible] before the 6th cent [illegible]

[illegible]

[illegible] Anaximander

[illegible] over the [illegible]

autochthonous

even today, but had also the beginnings of geometry, a gift more precious for the subsequent history of the European intellect than any other which the Greeks received from foreign lands.

It is not then extraordinary that Greek philosophy should have begun in Asia Minor. Nor is it remarkable that its subject matter should have been the origin of the universe and the laws of its operation. For after all, what else were the Asiatics discussing in their myths but the question of how things started? Their theologies centered about the history of some single and all-important god, the father of gods and men, who produced the primitive world of which our world is a continuation. Asiatic mythology was beset by this problem, when a number of others might just as well have interested people. How the world started is no more interesting than whether it started, and to invent a myth to explain its origin is to assume that its life is not unlike that of animals and plants, or the products of the arts, all of which have a definite beginning in time.

the Greeks

The place of its origin, then, and its subject matter are natural enough, but what is curious is this: though the subject matter of the early Greek philosophies is the same as that of the Asiatic cosmologies, its spirit is entirely different. The Asiatic myths assumed the existence of beings beyond the world, not subject to mundane laws, who made and controlled the course of events. There was no reason why they should have made a world. They seemed to be living as divine a life without it as with it. The question was one which persisted in Asiatic thought, and when Christianity became dominant in Europe, much of its theologians' time was spent in answering it. The only plausible answer then was that God made the world because He felt like it. For no reason could be given compelling enough to sway the will of the Omnipotent. But such an answer was unsatisfactory to the Greek. In his philosophy all this is changed. No god steps out of the machine to initiate cosmic history. The First Cause is a physical substance, some material thing, which operates by the laws of its own nature. Its every movement is theoretically open to the scrutiny of reason. And hence a scientific rather than a religious answer can be given to every question.

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Why the Greek colonist should have taken the supernatural element out of the speculations of his neighbors, is next to impossible to discover. All that one can say is that he was living in a civilization whose sanctity was not like that of his own civilization. We are always more detached and objective about our neighbors' beliefs than about our own. So the colonial Greek was not moved by the age, the habitualness, the beauty of these speculations. He could treat them as facts. They interested but did not enslave him. Then too he looked upon the Oriental with a contempt similar to that of Anglo-Saxons for the Latin races. These people were inferior to the Greeks, he held, in spite of certain valuable discoveries and inventions which they had to their credit. Why not take what was valuable and leave the rest? So a modern American will use a Chinese Buddhist priest's robe as he would use any beautiful textile, completely oblivious of the symbolism woven into it and the sanctity of its origin.

But more important than all this is the general intellectual atmosphere in which the Greek philosophies developed. The sixth and seventh centuries B.C. were a period of unrest. Politically the world was torn by the struggles between democrats and aristocrats. The old order was breaking up. Economically the pastoral life of agriculture and stock raising was giving way to the culture of the vine

But later grain was important in commerce

and the olive. The former made for stable community living. What chance was there for a pastoral people to expand commercially? In those days one could not ship beef and there was no need of shipping grain. But the famous wines of Greece and the Ægean Islands were in great demand and the olive produced an oil for food, hygiene, and illumination.[1] Both of these goods were easily transported and much sought after. But with the chance for greater prosperity came the risk of greater misery. As early as Hesiod's time the small farmer's lot was none too easy and by the sixth century, the struggle between the agrarian and the money owner was open and violent. That struggle finds an echo not only in the fragments of Theognis, but in those of such a philosopher as Heraclitus. It is not difficult to see why the philosophers stood where they did. Their interest in the political turmoil is witnessed by tradition and by their own writings. Almost all of them until Christian times were either participants in it or acute critics of it. To understand Greek philosophy is to read it in the context of its time. Otherwise it seems strangely aloof from the practical concerns of human beings. Just what the social sympathies of the philosophers were will appear later.

Aside from the state of unrest, we must note a characteristic of many Greek writers which helped to mold Greek philosophy. I refer to the Greek melancholy which, although it has been beautifully described in S. H. Butcher's famous essay,[2] is not so widely appreciated as it should be. The Greeks were a people unique among Europeans in that they grasped the fact that life might be, and sometimes is, tragic. A tragedy is not merely a plot which ends unhappily; it is a plot which cannot end otherwise. The Greek tragedy in its noblest form expresses the effect of having to choose between two equally legitimate courses of action, each of which is bound to end unhappily. The protagonist in such a play does not follow his course because of innate wickedness or because of the evil influence of a villain, or for some other melodramatic reason, but because he must choose and no choice can lead to happiness.

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[1] See Rostovtzeff's *History of the Ancient World*, Oxford, 1926, I, 194.

[2] "The Melancholy of the Greeks," in *Some Aspects of the Greek Genius*, London, 1891.

Although they were the only Europeans. Other peoples grasped the same fact.

Why? [illegible]

Sophocles's *Antigone* is the classic example.

Antigone is faced with the choice of obeying the law of the gods or the law of the state. She chooses the former and comes to a grievous end. She would have met a similar fate, however, if she had chosen to obey the law of the state. On the one hand, the gods would have punished her; on the other, the king. No weakness of character determined her choice, no untoward external circumstance. She chose deliberately and in full consciousness of what lay in store for her. No friendly god stood by to help her, to twist the chain of things so that natural law might not operate and caprice enter the world for her salvation. She was doomed by the mere fact of being human and having to choose.

To invent tragedy means to feel that the universe is not directed in man's interest, to feel that the natural order is indifferent to his welfare. To have invented tragedy means that the Greeks had among them men who were capable of seeing things objectively and not sentimentally. The Orientals with whom they came in contact saw the world at the mercy of a capricious god or gods, whose ways were beyond understanding. The world for them was essentially a mystery, which the human mind was incapable of solving. Man could bias the divine mind by prayer or sacrifice, but arbitrary

he could not comprehend it. Tragedy was impossible in such a universe, for tragedy can occur only when the course of events is logical. In an illogical scheme of things, no outcome is inevitable, predictable; at any moment the omnipotent will may interfere. In a logical universe, however, things roll on with a fatal steadiness and persistence. There is no deflecting a series of events once it has begun. In the oriental universe, even so frail a thing as a child's frown might upset the sequence of human affairs. No one could penetrate into the divine psychology. It was full of darkness and shadows and beyond hope of rational exploration. In such a world there could be melodrama but not tragedy.

Besides their contact with great and imaginative Asiatic theologies and besides their sense of tragedy, the early Greeks were fortunate in the sciences which prevailed. Science began as geometry and astronomy, as we have said, both of which pictured the world as inherently an order, not a chaos. The Egyptian mathematicians seem not to have generalized their wisdom. The Chaldean stargazers saw in the stars a universe whose laws were peculiar to the heavens. It seems to have occurred to neither of them that the whole universe might be operating under similar laws and that the vision of triangles and circles whose properties were irrevocably fixed and stable could be extended to the whole realm of being. We do not usually appreciate what it meant for the future of Europe to have modeled its thinking upon geometry.[1] We do not see that medicine or the fine arts or magic or psychology or any other of man's practices might have furnished us an equally impressive model of reality. Geometry, however, was clear, precise, perfectly balanced, dependable, fertile in implications. If the universe was geometrical, it was capable of being thoroughly understood by the reason; no part of it was hopelessly obscure or impenetrable. And if it were rational, the only obstacle to a perfect expression of its pattern was a lack of eloquence. But a lack of eloquence was a shortcoming of man, not of Nature, and could be overcome by education. The tradition that still survives in Europe, though growing steadily weaker, that the world is intelligible, has its source in the Egyptian habit of measuring the area of the deposits of the Nile with knotted ropes.

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[1] See Paul Valéry's *Variété*.

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These are the elements, then, which oriented Greek philosophies in the direction which they were to travel for a thousand years: as well as their own

(1) Oriental cosmologies directed their thoughts toward what are cosmological questions.

(2) The Greek sense of tragedy gave them a naturalistic, (determin as opposed to a supernaturalistic, point of view. ([illegible])

(3) Primitive science in the form of geometry and astronomy made them rationalistic rather than mystical.

What would men thus oriented, living in a time of social unrest, say about the universe?

The earliest Greek philosopher of whom we have any record is Thales, who lived in Miletus in Asia Minor about the beginning of the sixth century B.C. He founded a philosophic "school," in which he was succeeded by Anaximander and Anaximenes, who carried on the Milesian tradition for a hundred years more. We know next to nothing of these men, except that each sought to explain the origin of the world in the behavior of some physical substance. Tradition has it that Thales called this substance "water," Anaximander "the Indefinite," Anaximenes "air," or, better, "fiery mist."

It is easy to see why each of these conclusions should have been reached. According to Aristotle, who many years later wrote a history of early Greek speculation as an introduction to his own philosophy, the primitive substance must be one out of which all things came and into which all are resolved. Both water and air seem fairly plastic and the Indefinite seems to be a mixture of all things. For water exists as a solid, a liquid, and a gas, and is either present in the seeds of all things or, if not present, is required to promote growth. The fiery mist of Anaximenes is like the breath of life and is as necessary as water to the continuance of life. It surrounds the earth, as our eyes can easily see when they look at the sun and stars, and, as Anaximenes seems to have thought of it, was capable of condensing into earth or expanding into fire. As for the Indefinite, one can say little. Was it indefinite in kind or in quantity? It was probably a mixture of all things out of which actual things emerged. That it was called "the Indefinite" may have been to avoid calling it anything in particular, lest the question arise of how any particular thing could be all things in general. The real meaning of ἄπειρον probably [illegible]

But, as we know nothing about these men in detail, let us stick to generalities. Two characteristics stand out above all others. (1) Their thought is monistic: it finds the substance of the world to be one, not many. (2) It finds that the laws descriptive of the course of things are the observable laws of science, laws which can be grasped by the human intellect, the laws of the natural world. If air is chosen as the substance of the world, it is the laws of air, condensation and rarefaction, which will be used as an explanation of its changes. No attempt is made to introduce a supernatural element either to start things going or to deflect them

– this is reading into these theories precision and [illegible] that they never had.

We know a lot about the [illegible]!

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after they have started. These primitive thinkers had the attitude of nineteenth-century materialists. Save that they had

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The school of Miletus lasted for about one hundred and fifty years, surviving the destruction of the city. The last of the three philosophers, Anaximenes, seems to have been the most influential; and it is worth recording that his influence, like that of many other philosophers, split in two opposite directions. On the one hand it stimulated the philosopher Anaxagoras, whom we shall meet later in Athens, and who begins in a way the spiritualistic tradition, making something which he called the Mind responsible for all change and motion in the world. On the other, it pushed Leucippus toward a materialism more pronounced, if anything, than its own; for, as we shall see, the Mind in the school which followed Leucippus was a mere dependency of matter and subject to all its laws. And while these two men were elaborating the Milesian tradition in their own way, it continued to be taught in its purest form by devoted disciples, Diogenes of Apollonia, Idaeus, and Hippo who refused to listen to heretical novelties.

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Meanwhile, two religious reformers started out from Asia Minor to win the Mediterranean world over to better ways of life. As might be expected, they represented a right wing and a left wing reform.

Pythagoras, whose life is nine-tenths legend, seems to have been the traditionalist. His purpose was apparently to purify the religion of the Greeks of its accumulated absurdities and superstitions, and to restore it to what he thought was its original form. So today reformers of Christianity urge a return to the Gospels or to the word of Christ Himself and a shaking off of all the accretions of history.

What Pythagoras taught is as legendary as his life. But after the careful sifting of Professor John Burnet, we see as fairly certain the following idea: Man is composed of two elements, a soul and a body. The body is merely a receptacle for the soul and is no fundamental part of the human being. After death—and perhaps at other times?—the soul leaves the body to inhabit another. In order to preserve the soul's freedom, it is essential that the body be held in leash, and accordingly the Pythagorean Brotherhood, which Pythagoras founded, practised ascetism and abstinence from animal foods.[1]

It is seen that even primitive Pythagoreanism taught that in the human being there was, so to speak, a union of opposites. And as the order developed this notion grew until the whole world seemed to be a similar suspension of opposition. The world, says Aristotle, was divided by them into pairs of opposing qualities, ranged in two columns, a good and a bad. On the good side, along with the soul, were the odd, the limit, the one, the right, the male, the unmoving, the straight, the light, the square; on the bad, along with the body, were the even, the unlimited, the many, the left, the female, the moving, the curved, the dark, and the oblong.[2] The relation of opposites to each other worried many of the Greeks; they did not seem able to see how the world could escape contradiction, why it did not fall in two, unless opposition were somehow resolved. Now, though I may be mistaken here, the doctrine of the "mean"—which later became so important in ethics as the "golden mean"—seemed a solution of the difficulty. If one could find something which straddled the opposition, holding the two extremes in, as the Reason in Plato's famous myth held in the two horses of appetite and courage, one might have one's opposition and one's unity as well.

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[1] It is possible that their taboos of certain foods arose merely out of a desire not to eat the vessels which contained, as they thought, the souls of fellow men.

[2] The opinion that the good column is like the soul and the bad like the body, is mine, not Aristotle's.

The mean of the Pythagoreans was essentially a mathematical doctrine which arose from the observation of certain facts in acoustics. A violin string gives off a certain note when plucked and as the length of the string is shortened, the pitch of the note is raised. Pythagoras, or one of his followers, had the curiosity to measure the length of the string and compare it with the note it gave off and he discovered a definite relationship between the two. He found out that in an octave the high note is produced by a string which is just half as long as the string which produces the low note. Similar things were discovered to be true with respect to other musical intervals. He learned, for instance, that three-quarters of the length would produce a note which is four notes above the note produced by the whole string; two-thirds of the length would give a note a fifth above. But the Greek four-stringed lyre was so arranged that its end —or extreme—strings were an octave apart, while the two inner strings were, going up the scale, the former a fourth, the latter a fifth above the first. It was then discovered that the numerical length of these strings was equidistant from the lengths of the end strings. Hence these harmonious notes came from strings which were "means" between extremes, and the lyre seemed to be a "harmony of opposites" and the imagination could play on the theme to the heart's content.[1]

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Apparently the Pythagorean imagination was not long in discovering means throughout the universe binding its extremes together. Health was a mean condition in the body between two contrary tendencies; it was a harmony of what later became the "humors." The heavens were harmoniously ordered about the earth, with one portion above the moon and another below. Later on, we are told, even the doctrine of transmigration was dropped for a doctrine that the soul was a harmony of the body. The Pythagoreans seem to have become so convinced of the essential importance of their mathematical discoveries, that all else was subordinated to them, until the very name "Pythagoreanism" grew to mean the doctrine that "all is number."

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[1] This, like so much that I have to say about Greek philosophies, is borrowed from Burnet's two books, *Early Greek Philosophy* and *Greek Philosophy from Thales to Plato.*

The fortunes of the second religious reformer are no less interesting. The radicalism of Xenophanes was directed against both the social and religious ideals of his fellows, and his opinions have become classic. They are so strikingly expressed in his words that I quote them.

> What if a man win victory in swiftness of foot, or in the *pentathlon*, at Olympia, where is the precinct of Zeus by Pisa's springs, or in wrestling,—what if by cruel boxing or that fearful sport men call *pankration* he become more glorious in the citizens' eyes, and win a place of honor in the sight of all at the games, his food at the public cost from the State, and a gift to be an heirloom for him,—what if he conquer in the chariot-race,—he will not deserve all this for his portion so much as I do. Far better is our art than the strength of men and of horses! These are but thoughtless judgments, nor is it fitting to set strength before goodly art. Even if there arise a mighty boxer among the people, or one great in the *pentathlon* or at wrestling, or one exceeding in swiftness of foot—and that stands in honor before all tasks of men at the games—the city would be none the better governed for that. It is but little joy a city gets out of it if a man conquer at the games by Pisa's banks; it is not this that makes fat the storehouses of a city.

It is obvious that a man preaching such doctrines would be about as popular among the people he was preaching to as a man who should tell a group of American undergraduates that to make Phi Beta Kappa was more deserving of the college letter than to make the football team. When he added the following remarks one can see why his life should have been that of a wanderer.

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> (1) Homer and Hesiod have ascribed to the gods all things that are a shame and a disgrace among mortals, stealings and adulteries and deceivings of one another.
>
> (2) Mortals deem that the gods are begotten as they are, and have clothes like theirs, and voice and form. . . . Yes, and if oxen and horses or lions had hands, and could paint with their hands, and produce works of art as men do, horses would paint the forms of the gods like horses, and oxen like oxen, and make their bodies in the image of their several kinds. . . . The Ethiopians make their gods black, and snub-nosed; the Thracians say theirs have blue eyes and red hair.

The populace hearing such heresies was naturally outraged. The populace was continually being outraged by the philosophers in Greece. Almost without exception the philosophers were on the side of the aristocratic party in the political disputes, and the people were both innovators politically and reactionaries religiously.

But Xenophanes was not merely a shocker; he had apparently some fairly definite ideas about what God was like.

> One god, the greatest among gods and men; neither in form like unto mortals nor in thought. . . . He sees all over, thinks all over, and hears all over. . . . Without toil he swayeth all things by the thought of his mind. . . . And he abideth ever in the selfsame place, moving not at all; nor doth it befit him to go about now hither now thither.[1]

It is the idea expressed in these last fragments which seems to be the center of that philosophy which is traditionally associated with the name of Parmenides of Elea. Parmenides, a fifth-century figure, had studied Pythagoreanism and no doubt heard Xenophanes as he passed through southern Italy. From the former he acquired the dialectical or mathematical method, the method of reasoning from accepted premises which seem obviously true, and from the latter a direction for his reason. It is evident that the god of Xenophanes is more than the ordinary type of god. He is a sort of all-englobing deity, much like the god of pantheism, who rules the world by being the world. He is rather a short-hand expression for the presumed fact that if all the laws controlling the behavior of the universe were written out they would form a single and consistent system, like that of Euclid's geometry, eternally true, hence having always existed, never suffering change, never ending. Hence we find Parmenides trying to answer the question of what the world would be like if known mathematically, *i.e.,* rationally, if made consistent, if all inner contradiction were removed. The answer is, "The world as a whole would be like Xenophanes's god."

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[1] These fragments are to be found in Burnet's *Early Greek Philosophy*.

The cardinal axiom of Parmenides is, "It is the same thing that can be thought and that can be." And conversely, "That which is inconceivable cannot be." Now that axiom seems legitimate enough until we begin to realize that the inconceivability of a proposition often is no more than our own weakness of imagination. There is a man who writes to the Baltimore papers periodically, indicating that it is inconceivable that the world be round; and he proceeds to deliver himself of many interesting and to him convincing arguments to prove his point. After three thousand years of reflective thought, human beings have awakened to the fact that every vitally new conception about the universe is the proper meaning.

inconceivable, for it is bound to run counter to all our preconceptions and traditional ways of thinking. Yet the proposition that conceivability and reality are correlative terms is still an ordinary assumption in philosophy.

The world as a whole, then, is the object of Parmenides's inquiry and he sees at once that nothing in particular can be said about it. For were it described by any of the adjectives usually employed by men, it would be deprived of all the qualities indicated by the opposites of these adjectives. For instance, if we say that the sky is blue, we deny that it is red, yellow, green, and all the other colors. If we said the world were "this," it could not be asserted to be "that," but if it were not both "this" and "that" it would not be the whole. It must—a familiar enough assumption at the time—include all opposites. Hence we can only say of it, "It is." "I am that I am." ?

This does not tell us very much about the world and, after all, a philosophy cannot stop at ineffability. After proving that the Whole is indescribable, Parmenides, like many another man, proceeds to its description.

Not only is it all-embracing, it is also eternal. For were it to end, where would it go? It would either become nothing—which is unthinkable—or something. But if it became something, it could only become itself, for there is nothing other than itself—is it not the whole? For the same reason it is immutable, for there is nothing other than itself for it to have come from or for it to change into. Nor is it movable, for motion can take place only in the void and the void is equivalent to nothing. And it is continuous, for were it divisible—were there gaps in it—the gaps would be occupied by something or nothing. If by something, then it would be divided by itself, which is no true division; if by nothing,

[illegible]

then—the conclusion is obvious. Finally it is self-dependent or sovereign, not in the sense of having subjects, but in the sense of being subject to nothing.

These properties of the world as a whole, eternality, immutability, immovability, indivisibility, sovereignty, and their implications, we shall speak of henceforth as the Eleatic qualities. They give us a picture of the world in which empty space is unreal, motion is unreal, time is unreal. The motionless finished world, in which nothing can happen, nothing can shake the established order out of its perfect peace and elegance, must have been very satisfying to men disgusted with the changes which were taking place before their eyes. It was a perfect escape for the aristocrat. Yet there was a problem involved in all this which needed solution. Empty space, motion, time, all seem to exist. We see things move from one position to another, grow more brilliant and fade, come into being and pass away. What are we to conclude? If our observation is correct, then Parmenides is wrong. If Parmenides is right, then our observation is wrong.

A disciple of Parmenides, Zeno, who carries us well into the fifth century, attempted to show that if Parmenides was wrong, the knowledge we gain from our senses cannot be right for it involves rational absurdities. We shall take only one instance of his method. We see things moving, but Zeno shows that motion is logically impossible; for how can things move when at any selected moment they are at some one position in space? But to be at a given point at a given moment is to be at rest. Can we derive motion from the addition of states of rest? Obviously not. Therefore motion is unreal.

What Zeno really proved by this and his other famous puzzles was that his logic or, if you prefer, his method of reasoning, was incapable of explaining what our senses observed. Today we should probably not blame our senses but our reason, holding that we had best revise our postulates if they give us such seemingly absurd results. Zeno, however, seems to have felt that he disproved the existence of what observation revealed. So the contemporaries of Galileo maintained that he was a magician when they saw two iron balls of different weight dropped by him from the Leaning Tower of Pisa reach the ground in the same time.

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The Eleatic properties seem to be nothing more than descriptions of the world, but as a matter of fact they were supposed to be a eulogy. To have Eleatic properties was to have qualities nobler than the run of men, and that which had them *par excellence* was the noblest thing in the world. They were used to describe the highest values; goodness, beauty, truth have all been thus described, in spite of the observation that standards for all three have changed as steadily as the human race has changed. They became the marks of the perfect man in Greek ethics, and when Christian theology was perfected, they became the marks of God. Nothing is more romantic than their history; and even today, despite our familiarity with theories of evolution and relativity, we shudder at the passing of time, are dismayed by plurality and division, and find the impermanent a source of gloom, if not tragedy. The enunciation by Parmenides of what he called "the Way of Truth" was an articulation of one of man's elemental emotional reactions. Nothing up to his time was more influential in western thought. To a large extent the history of his doctrine is the history of the dominant strain in European philosophy; and for centuries to be an Eleatic came to mean to be right.

On the other hand, the history of the teachings of an older contemporary, those of Heraclitus of Ephesus, is the history of the recessive or heretical strain.

Ephesus is back in Ionia, in Asia Minor. Once more we are in a time of social revolt, and the evidence that our philosopher sided with the rulers against the rebels is no longer misty and mere legend but attested by his own words. He seems to have been a noble himself, exiled and ruined when the populace uprose to institute a more democratic form of government.

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Living in a time of rapid change, when old values were eclipsed by new and instability seemed the order of the day, it is not strange that he should point to change and instability as the keynote of the universe. If there is to be some one element behind the world, it must be that which is ever dynamic, restless, never at peace with itself, destroying and upbuilding. The four elements which were gradually becoming definite at the time, earth, air, fire, and water, gave him a choice from which it was not difficult to select the proper one. He chose the most plastic, fire, at once a symbol and a fact.

Fire to Heraclitus presented advantages which no other element possessed. Its existence is the drama of destruction and creation. Into it go the more brutal and dead substances which to the Greeks were mainly "earth," the cold dry element; out of it come the more volatile, the gases, which seemed almost immaterial to these early chemists. It was thus like a miracle worker, transmuting the heavy into the light, the cold into the warm, earth into air.

But what was it itself? What adjectives had we to seize that which was ever fluctuating, rising and falling, dying and being born? As a symbol of change it was perfect. The reason could scarcely grasp it; it was—almost but not quite—as indescribable as the Eleatic One. Not quite, for it was capable of sensory if not rational apprehension; we could see the paradox even if we could not understand it.

In its flickering dance Heraclitus saw the destiny of men as well as of things. We too were living in a state of conflagration. All was thrown on the pyre to be consumed and to emerge in a new form. Nothing is at rest, nothing is stable. History rushes on, with empires crashing to the ground and new empires springing up in their places. "Man kindles a light for himself in the night-time, when he has died but is alive. The sleeper whose vision has been put out, lights up from the dead; he that is awake lights up from the sleeping."[1] Out of the strife of opposites comes creation; war is a blessing and life and death are one.

How much of this is science and how much poetry, we have no means of knowing. Even the ancients considered Heraclitus difficult. But I think that we are right in seeing in his more metaphorical fragments an attempt to articulate what seems self-contradictory. Yet the notion that at the heart of the world is a process and not a completion was not in its entirety foreign to Greek thought. For a moment's reflection will show that Heraclitus, like so many of his contemporaries and predecessors, was seeking a mean between extremes. Fire is like Pythagorean "unity," which the Pythagoreans thought was both odd and even; it is a balance of contrary forces and its restlessness is the pulling of those forces now forward, now backward. Heraclitus seems to have seen—or at any rate lets us see it through his symbols—not a lifeless and mechanical balance of dead weights and measures, but a living hand which feels the tug on the reins.

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[1] Frag. 77; Burnet, *Early Greek Philosophy*, p. 138.

The world, then, is in a state of flux. Is this merely a statement of fact, a description of what Heraclitus observes, or is it, as was Parmenides's philosophy, an evaluation as well? Was he saying, "The world is a-blaze," observing it dispassionately, as one who would say, "The pressure and the volume of a gas vary inversely at a constant temperature," note it, and pass on? Or was he, like so many philosophers whom we shall meet, not only observing but also judging? The latter seems to have been the case. The inevitable passing of things was not merely a fact of nature, it was a criticism of nature. Passage was not only existent; it was bad.

Here again, like the Eleatics, Heraclitus was expressing an elemental reaction of human beings to the world. If one runs over the history of literature, one finds a constant outpouring of melancholy over the fact that things change. The simple fact of impermanence has been enough to stimulate a weeping and wailing at the vanity of human wishes. One finds this among all peoples; and the man who would rejoice that the lion and the lizard keep the court where Jamshyd gloried and drank deep would be considered either perverse or hypocritical by most of his fellows. One finds no suspicion that, as is commonly believed since evolutionism has become popular, change is as much an opportunity for innovation and reform as for frustration and destruction. So Heraclitus bewailed the passage of time and, as was natural in a man who had suffered from change, saw in it evidence of our futility. "When [men] are born, they wish to live and to meet with their dooms—or rather to rest—and they leave children behind them to meet with their dooms in turn."[1] Would the Ephesian populace have agreed?

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[1] Frag. 86; Burnet, *Early Greek Philosophy,* p. 139.

Still Heraclitus was not content to rest in this condition of relativism. He was not an out and out dynamist. For the conflagration of the world was not a huge bonfire into which things tumbled by chance. Behind it was a Law which, when understood, showed that the world was like a poem in free verse seeming to have no pattern, while its very lack of pattern is intentional, the product of Reason. So if we turned from a sensory view of the world to a rational one, we should see that there is a "thought by which all things are steered through all things";[1] that "the sun will not overstep his measures; if he does the Erinyes, the handmaids of Justice, will find him out."[2] But what that Law is, the fragments do not show. At most, they indicate a suspicion of what became in later thought two worlds, a world of sense in which all was flux, a world of reason in which all was stability. We shall see such a world in the atomists and in Plato, and the doctrine develops to the point where the world of flux becomes earth and the world of stability becomes heaven.

The school of Ephesus, however, seems to have emphasized the flux and neglected the world of stability. Its adherents became famous relativists and believed that it was nonsense to speak of objects in the ordinary sense of the word, since what seem like objects change constantly and are no sooner named than they are something else. Each man has his own perceptions; one man's are as good as another's; and there is no truth binding on all alike. Out of this doctrine and its apparent implications came the theory of one of the most interesting of Greek heresies, the movement known as Sophistry. But that belongs to the intellectual history not of the colonies but of Athens.

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[1] Frag. 19; Burnet, *Early Greek Philosophy,* p. 134.

[2] Frag. 29; *ibid.,* p. 135.

The distinction which Heraclitus suggested between the world of flux and the world of permanence was developed by the Eleatics, with the result that the world of flux was seen to be unreal and the world of permanence was alone granted reality. A similar theory that the world is two-sided, appearing differently from what it is really, was worked out in Sicily by the philosopher Empedocles, of a generation later than that of Heraclitus. But Empedocles disparaged neither the real nor the apparent world.

Empedocles is unique among colonial Greek philosophers in being a democratic leader. Whereas most of the thinkers of the time were bitter critics of "the Many," Empedocles seems to have put himself at their head and to have broken up assemblies of their opponents. His love of innovation was typical of the man; he not only stood by the new social order, but founded a new school of medicine, preached a new religion, and invented or expanded theories in philosophy of the greatest influence.

He seems to have anticipated a criticism of the early physiologers which Aristotle was to make many years later. If the primordial substance is, say, water, why should it ever change to anything else; why was it not content to stay itself? And if it did change into something else, say, air, where did the air come from if it wasn't in the water? Water is wet, air is dry; can a dry thing arise out of a wet thing? The answer seems to be in the negative; otherwise something would be coming from nothing, which seemed at that time absurd. Empedocles believed not only that nothing could come from nothing, but added a corollary, *Like produces like.* Consequently he can conceive of no way of one element's generating another and, good democrat that he is, he is willing to declare Nature not one but many—the elements are all on an equal footing, none is supreme.

The world, then, is "really" the four elements, earth, water, air, and fire.[1] But it seems to be a variety of things much greater than fourfold. That is because the things we meet in our daily life are combinations of these four, combinations in which the elements exist in varying proportions. So the chemist of today might hold that "really" all that exists is the eighty-odd elements, running from hydrogen to uranium, and that the complexity of experience is caused by their combinations. The real world is then a world which is ever the same; the apparent world is one of combination and separation.

But, Empedocles continues, the elements by themselves are inert. They are mere lumps of matter, and matter by itself is impotent. For change to exist, two things are necessary: a patient, that which is changed, and an agent, that which produces the change. Matter (the elements) is what is changed, and hence what acts upon them is something unlike matter; it is what popular speech today would call "force." The kinds of change which Empedocles saw were combination and separation. Hence the two forces acting upon matter were attraction and repulsion or, in his more figurative language, Love and Strife. It is true that Empedocles speaks of these two forces at times as if they too were material, but an imaginative reading of his fragments shows us that they were as immaterial as anyone of his time could well have been expected to conceive them to be. He at least thought of them as essentially active "principles," sources of change and not objects of change.

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[1] There is a certain amount of speculation as to why these four were chosen as elemental. Curiously enough, they are elements not merely in Greek thought but also in certain primitive theories. See P. Radin, *Primitive Man as Philosopher,* p. 326.

Now this theory of change, that whatever changes does so because of the intervention of something not itself, is a step backward toward mythology, a step back to the kind of thinking which the Milesians superseded. When Thales said, "All things are full of gods," he was indicating that gods were not forces outside of the world acting upon it, but that mundane things moved of their own accord and in accordance with their own laws. Nevertheless, this retrogressive step was to set the pace for the later philosophers; and Milesianism, like Heracliteanism, was never again dominant in classical thought. It survived in the atomists, whom we shall discuss next, and through them was passed on to the Epicureans to be revived in the Renaissance; but it was always a recessive type of thinking.

This theory of change, moreover, set the style of considering the things that go on in the world after the mechanical model. By "mechanical," of course, I mean as construed by a Greek. To a Greek the "natural state" for a physical object was a state of rest. Motion was something imparted to objects from without; bodies moved through space because of forces acting upon them. There was only one exception to this, *viz.,* the return of bodies when misplaced to their "natural position"—that is, earth to the earth, water to a level just above the earth, air above the water, fire above the air. But as the displacement of bodies was always due to the intervention of external forces, it is easy to see that in returning to their natural positions they were merely acting like an elastic band which snaps back to its original length after being stretched. As time went on, all change became looked upon as a change of position and in Aristotle, who made a specialty of the study of change, the word *kinesis,* which means literally "motion," came to be practically synonymous with "change."

So far, so good. But what was the effect of this abstract doctrine? The effect was that the source of all change or movement was sought in something outside the little universe composed of the changing thing. And as it gradually came to be believed that the source must always be immaterial, we find developing theories of a number of such agents. The human body and other living bodies seemed to be exceptions to the law of material inertia. They seemed to be auto-kinetic—self-moving. A tree grows without external impetus, an arm is raised without the intervention of an alien force pushing it up. To explain such phenomena, it was necessary to posit an immaterial agent within the human body. That agent is more familiarly known as the soul. Just how it operated was a mystery; that it must operate was an implication of the Empedoclean analysis.

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Wherever, as I have said, anything occurred, the "cause," as the agent came to be called, was looked for beyond the occurrence. So in the government of states, in the diagnosis of disease and in its cure, in physics and chemistry, the Empedoclean attitude prevailed. It was not the only possible attitude obviously. Empedocles might have started from an observation of biological change—growth—and interpreted mechanical change as a special case of it. But he chose the opposite course, and out of it came the notion of a god beyond the world, of a sovereign beyond the people, of a disease beyond the body, of "forces" pulling and pushing about things not themselves.

This was not the full extent of the innovations of Empedocles. He saw Love and Strife on a larger scene than that of falling bodies and rolling balls. Like Heraclitus, he could not believe that the struggle between opposing forces was a rough and tumble fight. Greek that he was, he had to define an order for the battle; and democrat that he was, there must be peace without victory. Hence he invented an eternal cycle of events which would describe cosmic history. First, there would be a period of Love in which there would be a maximum of integration, peace and the arts would flourish; this would be followed by the breaking up of Love's achievements through the power of Strife, until history would reach the nadir in the fullest disintegration of things into the elements, a period of warfare and destruction. But inevitably the palm would pass from the hands of Strife into those of Love and again concord and civilization would reign. The cycle would be repeated forever.

Finally, Empedocles turned to a new problem in Greek reflection. The Eleatics and the Heracliteans as well were raising the question of the validity of human knowledge. Empedocles asks how knowledge arises and answers it in the same way that he had accounted for every other occurrence in the world. Knowledge is the result of the impact of similars. The elements in us meet the elements in the world outside of us and their meeting is knowledge. The fire in our eyes sees the fire in the external world, and so on with all the other elements. Just how the conjunction of the two was effectuated is not clear; but what is clear is that he demanded an actual physical conjunction. The details are unimportant. Whatever they are, the movement is started to consider the mind as passive in knowledge, receiving impressions from the external world through physical contact.

The last school of colonial philosophy flourished again in Ionia, in Thrace. Its founder, Leucippus, a younger contemporary of Empedocles, is said by some to have come from Miletus, by others to have come from Elea. Intellectually he comes from both places. In general his attitude, like that of his disciple Democritus, is Milesian in that it reverts to a rejection of non-physical forces. Moreover, he retains some of the doctrines of Anaximenes as his own. But the actual origin of his speculation seems to have been the interest stimulated by the paradoxes of Eleaticism.

The Eleatics proved to their contemporaries that change and motion were impossible if there is no empty space. And as they believed that the concept of empty space was self-contradictory, they drew the obvious conclusion. The atomists, as if they were repelled by such conclusions, followed the other alternative and saved change and motion by assuming a void. In the void they placed an infinite number of tiny bits of matter called "atoms," each of which was an Eleatic whole. The only difference between these atoms was size, shape, arrangement, and position. Some were larger, some smaller than others; some were round, other jagged, others pyramidal, and so on. It is even possible that they had the shapes which the Pythagoreans gave to numbers; for the Pythagorean numerals were dots arranged in various patterns, perhaps like the dots on dice, and were supposed by later thinkers to represent the "inner nature" or "form" of things.

The atoms, unchanging in themselves, were falling in a perpetual snowstorm through empty space. As they fell the bigger ones overtook the smaller—this is true of all falling bodies as late as Galileo—and thus collided with them. Atoms with hooks like burs would catch in others, and bit by bit masses of atoms would be formed. These masses of atoms would be the objects which we know.

What makes the atoms form larger masses? Merely the laws of falling bodies. No outside non-physical force is invoked as in Empedocles. As the atoms were infinite in

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number, they could never be exhausted; as they were eternal, they could go on combining and separating forever. Nothing was needed in this beautifully simple theory beyond a few facts, which observation and reason would provide. Thus the various states of matter could be explained by the shapes of the atoms: fluids would be formed of round atoms which slipped over one another as they rolled like tiny lead shot; solids, of rough jagged atoms which clung together and could not easily be torn apart. Thought and the soul become a mass of very subtle fire atoms, so volatile that they permeate the whole body. Whatever happens in this world is calculable in advance, for these very simple elements determine the behavior of their compounds.

But the world of atoms and the void was below our powers of perception. How did we come to know it as colored and sonorous, as savory and odorous? By the physical contact of it with our bodies. Every object was continually sloughing off little copies of itself which met our sense organs and through them penetrated to the soul where sensation occurred. The details of this theory, like those of Empedocles's, can be omitted. What is worth remembering is that this Thracian, Democritus, twenty-five hundred years ago was able to reduce the almost hopeless complexity of our conscious life to an affair of physics. The notion that we reached out to the world beyond us with our senses and drank it in, lay hands upon it to apprehend it, is strikingly absent in this cool-headed thinker. Knowledge for him is a reception of external influences; it is not an act. Hence the colors and sounds which glorify the world are really a product of the interaction of two groups of atoms, one of which is our bodies, the other of which is the object. They belong to neither, strictly speaking, but are like the spark which arises when the flint and steel are struck. It flares up and is gone. So, says Democritus, our descriptions of the world in sensory terms are misleading. The world is neither colored nor sonorous; it is a dance of atoms in the void.

A mechanical view of things in accordance with which everything which happens is due to physical impacts, a receptivistic theory of knowledge—these are what the world owes to atomism. From it Democritus drew a picture of life as a search for simple pleasures and the avoidance of pains. He saw men deceiving themselves with phantoms and gently reminded them that they were really atoms, as unstable as the phantoms with which they beguiled their days, eternal only in the stuff which bound them to the universe. They had nothing to hope for as individuals, for their individuality would go as soon as their atomic coherence went. Such a materialism was a great liberation from superstition; and had it survived in its integrity, the path of European wisdom would have been vastly different from what it was. What the path would have been, we are beginning to see today, for since the nineteenth century we have been treading it more or less consistently but by no means so gallantly and courageously as Democritus.

Chapter II

ATHENIAN PHILOSOPHIES

During the period of colonial speculation, political power was centralizing in Athens. Athens had passed through the years of social revolt as all the other Greek cities had and finally in 594 B.C., not long before the time of Thales, had turned the problem of government over to one of her citizens, Solon, to be settled. Solon arranged matters satisfactorily for the agrarians by providing an outlet for their products, understanding apparently that the best help for a producer is a market; yet he was not so happy in his attempts to organize a constitution. Constitutions were then the vogue; the Greeks were beginning to have great faith in the written word. Several of the Greek states had codified their laws. As early as 660 B.C., three-quarters of a century before Thales, Zaleucus had given the Locrians written law. He was followed by Charondas in Catano and Draco in Athens. But the putting of laws in rigid form was not a solution of all social troubles. Though it seemed to eliminate caprice and thus to insure the permanence of statutes, it did not provide for those legal changes which ought to follow social changes. To have Eleatic law in a Heraclitean society is not the happiest of combinations. But the Greeks were not aware of that and it is doubtful whether the period of legal fixation was as fertile of good results as was anticipated.

At any rate, the Athenians found ways of violating the constitution of Solon, and a period of disorder set in. Within a generation a "tyrant," Peisistratus, was in power and the government became a dictatorship. Under tyranny, which lasted for half a century, Athens prospered commercially. The vine and the olive were converted into gold; the Attic potters turned out wine jars and vases, and temples arose in honor of the gods. As in Renaissance Europe, there grew up an alliance between the autocrat and the people against the nobles and nationalism took the place of feudal loyalty. But such alliances are not permanent and by the end of the sixth century, a popular champion, Cleisthenes, rose to power, expelled the dictatorship, and laid the foundations of what was later Athenian democracy.

Meanwhile the Milesians, the southern Italians, the Ephesians, were enjoying philosophic inquiry. Philosophy was still unknown as an art at Athens. Athenian genius was occupied in self-aggrandizement to the good end of keeping the Persian out of Europe. With her sea power increased, Athens was able not only to defend Hellas against political subjugation from Asia, but was also able to keep the trade routes Athenian. So that by the end of the second Persian War—480 B.C.—she was in a position to command the Mediterranean world. Bit by bit the democratic spirit had grown and by 460 B.C. the populace was as supreme in Athens as Athens was in Greece. Hence when Pericles came into power, he found a nation sovereign in its own right.

The desires of this nation were oriented toward conquest, and with plenty of money in its treasury, the acquisition of which was not beyond criticism, these desires could be fulfilled. Pericles kept the navy busy on the sea and, true imperialist that he was, extended Athenian power wherever possible. Under his rule Athens prospered and swelled in an unheard-of manner. States which began as her allies woke up to find themselves her subjects; their contributions to the general defense became tribute to the capital city.

Like all men of his type, Pericles was anxious that the background of his sway be worthy of him and the Age of Pericles has become as famous as that of Augustus, Charlemagne, Lorenzo, Louis XIV, or Elizabeth. He encouraged the arts in the most practical fashion by commissioning artists to make buildings and statues. If the Muses found Athens a pleasant residence, it was largely because of his liberality; and whatever rottenness there was in a regime which fell to pieces as soon as its director died is usually forgotten in admiration for its external splendor. Since a good bit of the rottenness was the fault not of Pericles but of the Athenian mind, mean-spirited, selfish, and treacherous as it was, the name of Pericles is generally revered rather than ridiculed.

Among the thinkers whom this statesman invited to Athens was Anaxagoras. Anaxagoras was born in Clazomenai, a city near Smyrna, and was reputed to be a pupil of Anaximenes.[1] He may justly be called the founder of Athenian philosophy.

Anaxagoras accepted the Empedoclean analysis of change. The Sicilian had wielded himself such power upon an inert populace that the theory of an agent and a patient was what might have been expected from him. He had no evidence of things happening of their own accord. So Pericles was the very image of external force controlling brute matter, and it was like a bit of courtly flattery to find his pet philosopher interpreting cosmology in terms nous

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[1] He was more probably a pupil of the obscure Hermotimus who held views similar to his, according to Aristotle (*Metaphysics*, p. 984 b).

of the dictator and the mob. He went farther toward spiritualism than Empedocles, for it will be remembered that the Sicilian had not been able to immaterialize his ruling power completely. Anaxagoras goes almost the whole length, calling it Mind, speaking of it as infinite, autonomous, unmixed (*i.e.,* pure) ubiquitous. It is in other words Eleatic, except for its infinitude. It was on its way to becoming God.

Mind operated upon a great mixture which was the primordial stuff of everything. Whereas the Atomists, who are of a later generation than Anaxagoras, will split matter up quantitatively, Anaxagoras split it up qualitatively and had atoms which were apparently little bits of warmth and coldness, wetness and dryness, heaviness and lightness, etc. They were all intermingled, and in some fashion each had a part of everything else in it. But the parts were not evenly balanced in each qualitative atom and things are named after the part which predominates. Mind operating upon this mixture set it whirling and, as it whirled, the parts were separated out to form the various things which we know in daily life. The dense, moist, cold, and dark fell to the center, while the rare, warm, dry, and light flew off to the periphery. The world thus was built up by a separation of opposites.

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The people who read Anaxagoras found his greatest innovation in the conception of Mind as the controlling force of the world. "He seemed like a sober man," said Aristotle, "in contrast with the random talk of his predecessors." But this very innovation was dangerous to his career. He exalted Mind by calling it divine and offended the religious sensibilities of the populace. They demanded his head and, as his patron's power depended on their favor, they very nearly had it. They were able to cause his departure, if not his death, and could sink back feeling that they had shown at least one dangerous alien the door.

Yet Anaxagoras had sown the seeds of philosophic wonder in Athens, and try as they would, the Athenians were never able to rid themselves of the plants which grew from these seeds. Like the Ephesians of Heraclitus's time, they "followed the poets and took the crowd as their teacher, knowing not that there are many bad and few good." Yet we know what Anaxagoras had to teach them, whereas the very charge on which he was condemned has been lost.

Like Anaxagoras, another philosopher came to imperial Athens from Ionia, the great Protagoras of Abdera, fellow citizen of Democritus. The figure of Protagoras is known to us largely through the writings of his enemies, for his books are lost. He is, however, one of the most interesting of the Athenian thinkers, for his teachings, plainly of the heretical or recessive strain, anticipate some of the most characteristic doctrines of the present day.

The great innovation of Protagoras was practical rather than theoretical. It seems to have occurred to him for the first time that money might be made out of philosophy. He became a professor of philosophy and not merely a philosopher, starting a custom which earned riches and contumely for its practitioners, until today the name by which they were called, "Sophist," or "Wiseman," is a current term of derision.

One of the fruits of sophistication is scepticism and a weariness of learning. The great sceptics in Europe have seldom been men of little education and, conversely, men of great education often tend to scepticism. Men like Montaigne and Pascal, for instance, not to mention our own contemporaries, are not people who doubt for the pleasure of doubting or for its conversational effect. In a society like that of Periclean Athens, the sceptical attitude is to be expected. Some people adopted it to be in style; others, through fundamental conviction.

That Protagoras was of the latter group, no one doubts today; that he produced disciples of the former group, no one should doubt.

His beginning was in Heracliteanism. According to Heraclitus, the world of perception is in a constant state of flux. It is never quiet enough for us to grasp it, but like Proteus changes into something else as soon as we lay hands upon it. So with our perceptions; they come and go, flicker and flare up, die down and are extinguished. But more discouraging than their impermanence is their "personalness." One man sees a thing as square, another as lozenge-shaped; to one man a thing is red, to another it is indistinguishable from green; when one is warm, moderately cool water seems cold, when one is cold, it seems warm. There seems to be no one set of percepts which is inherently the standard, revealing the objective nature of the thing perceived. To be sure, we use one; is its use anything more than convention? Why should the world be described as it appears to us? We know that to other animals some of its aspects are more complex, others more simple. The dog would be moved to pity at the range of our odors; we are somewhat contemptuous of his range of vision. Which is right? Is the world olfactorily as complex as it is to a dog, or as limited as it is to a man? [illegible]

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The obvious answer is, These things are relative. The world is whatever it appears to be to the person perceiving it. Every man is judge of what he perceives and no man has the right to set himself up as referee in the contest of opinion. Yet by means of certain conventions, we can

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A naive solution! As if we could [illegible] neck!

attain a kind of uniformity in our judgments. Still that uniformity must not be attributed to the world—to "Nature"—itself.

"Nature" is hidden from us; we have no means of knowing what she is except our perceptions. Hence why attempt to study her? Why bother with Being and Non-being, with the One and the Many, with all the subtleties of Ionian and Italian metaphysics? Our arguments are bound to be fallacious and hence futile. The course of wisdom is to abandon the inquiry. In its place, let us study Man, ethics, law, rhetoric, logic. These are fields which we can fruitfully explore; why neglect them for the barren fields of cosmology? "Man is the measure of all things."

This little phrase, like most influential phrases, has a variety of meanings, and the successors of Protagoras exploited them all to their own profit. They are all eminently interesting, and, what was more important to the professors of philosophy, they all offered ways of making money.

But probably the phrase simply meant that knowledge is relative to the knower. Here "man" may be interpreted collectively or individually. If collectively, the human race as distinguished from all others is the measure of all things and truth becomes a human rather than a superhuman affair. Thus standards are seen to be human and not divine, and in the case of ethical standards, good and bad, it is easy to prove that there is an Athenian good and a Persian good, and no necessarily valid means of reconciling the two. Variations among moralities are to be expected and should occasion tolerance, not alarm. Thus, if the young men about town choose to imitate the Lydians, they are guilty of nothing evil, they are merely different. Athenian morality is simply one out of many possible moralities;

to insist upon its superiority is mere provincialism. It is in no sense of the word binding on non-Athenians. As the young men about town, with plenty of money and leisure, did want to live in the most stylish manner, were it Lydian or Spartan or Sicilian, the arguments of the Sophists were very welcome to them.

But proofs of moral variation among nations can be duplicated by proofs of moral variation among individuals. If no one nation sets the standard, why should any one individual? Why must all Athenians act alike and think alike? Protagoras would have answered, "In order to live harmoniously and hence pleasantly." But his more bumptious disciples answered, "They shouldn't." Each man is his own standard of right and wrong, of beauty and ugliness, of truth and falsity, they declared. There is the same variation among individuals as among peoples, and one of the later Sophists, Callicles, is cited by Plato in his *Gorgias* as a protagonist of the most pronounced Nietzscheanism. He preached man's obligation to give satisfaction to his unbridled desires, condemned temperance as the virtue of the weak and slavish, and extolled those princes and tyrants who created their own morality. At least they had the satisfaction of being slaves to no one, whereas the virtuous or temperate man is a slave to the mob. So to Agathon there was no such thing as justice; there was merely mutual agreement. And to Alcidamus all men were equal: "God meant all men to be free, Nature made none a slave,"—a doctrine that gained a certain popularity in the eighteenth century.

It is clear that such ideas are extraordinarily like many that are preached today, like some forms of pragmatism, for instance. There is no reason to feel that they are any more false in their entirety than the usual run of philosophic doctrines. But like all sceptical theories, they ran into logical difficulties, inner contradictions, and were in violent opposition to what must always be the predominant beliefs of organized society. In times of wealth and security such ideas flourish; they are typical expressions of the life that feels free from danger. At such times one can be tolerant of others, for one is predominant; one can be sceptical, for beliefs are of no importance. And though the younger generation of Protagoras's time was living on the brink of a series of wars which would entail the ruination of their country, they felt no danger in the air; and these foreign doctrines, so brilliant, so clever, appealed to their wit, amused them, defended them in the courts (and they were often in the courts) and, best of all, increased their skill in conversation. Let the Elders storm; storming is their forte. The younger generation was only waiting to take over the reins and the Elders would soon have disappeared. So why worry about their opinion?

When one reflects upon the larger aspects of Sophistry, one sees that its problem was not unlike that of the cosmologists. The cosmologists were looking for the *physis* (the nature) of material things; they asked what was common to all things regardless of their changes. As we know now, they answered variously: water, air, fire, numerical ratios, the four elements, the atoms. But Protagoras had turned men's attention away from such problems to problems of conduct. And he had asked, Is there a *physis,* a common element, in human standards? His answer had been in the negative. That left the Sophists in a condition of denying the existence of a common element in either physical or moral spheres. What wonder, then, that one of them, Gorgias, entitled his book, *On Nature, or Non-Being?*[1]

In spite of their flippancy and idiocy and not infrequent ?? insincerity, the Sophists meant much to the progress of Athenian civilization. They gave a precision to rhetoric and logic which these disciplines had never had before. They stimulated an interest in the study of humanistic questions which was to be the focus of Greek thought for many years to come. They were obviously great liberators of opinion, shaking men out of traditional ways of belief which had grown sacrosanct because traditional. Their great fault was their professionalism, for the search for truth is never safe when commercialized. Eloquence, novelty, cleverness, are at a higher premium than sobriety, accuracy, and precision, a lesson which popular lecturers in our own civilizations are continually teaching us—by example if not by precept. As Plato said in a different connection, the public is the great Sophist, and we might add, the great maker of Sophists.

The search of Protagoras for a *physis* in human affairs was carried on by Socrates, one of his younger contemporaries (*c.* 470-399 B.C.).

Socrates in his own day was confused with the followers of Protagoras and lampooned as one of them. He had, indeed, certain characteristics which made such a confusion easy. He too was a humanist, believing that the study of the physical sciences was fruitless and that the proper study of mankind was man. He was, moreover, a kind of sceptic in that he boasted of his ignorance, pretending that he alone of the Greeks was wise enough to know that he knew nothing. But whereas for the Sophist ignorance was the end of reflection, for Socrates it was the beginning. He believed that one must be first purged of error before undertaking the search for truth. Finally, his method of inquiry was not unlike theirs, for they both made use of dialectic. Socrates's habit was to extort a profession of faith from his associate in conversation, and by questions seemingly innocent to lead him into self-contradiction. But this was what the Sophists did and though the purposes of the two were, to be sure, different, the means were enough alike to mislead the Athenian public.

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[1] See his argument in Zeller, *Pre-Socratic Philosophy*, London, 1881, Vol. ii, p. 452.

On the other hand, Socrates remained to the end of his days an amateur. He made no money out of his teaching. But this of course made him seem all the more perverse to his fellow citizens who could understand a man's shocking others for pay, but could see no reason other than mischievousness for his doing it for nothing. Above all, however, his great difference from them was that whereas the search of the Sophists for a common element ended in failure, his ended in success.

If one examines what men do, said Socrates in effect, one will see that all their deeds are directed to an end. Their work, their play, is purposive and is what it is because of the end. A carpenter building a house fashions his behavior in view of his goal, and a philosopher fashions his similarly. That which helps him toward it he accepts; that which hinders he rejects. For each type of deed, the end may be called "the good"; thus the house is the good of carpentering, truth is the good of philosophizing. Each deed will have its good, the good of all deeds will be The Good.

The word "good," however, does not simply mean "the end" in the sense of "the terminus." It has also a connotation of value. Houses are not merely the termination of carpentering, they are also the justification of carpentering. Men build houses because they think that houses are worth having, and they seek truth for the same reason. Some things they do are done because they are good for achieving other things; but somewhere there is supposed to be an end which is final and which is the justification of our various deeds. The adjustment of means to end, therefore, is one of the criteria of excellence in the Socratic world of values. And when our conduct is so organized that it most perfectly achieves its ends, we may call it "good." If, then, we can determine the end of all human conduct, the Good in itself, we shall be able to determine what are our best means of attaining it and hence shall know when conduct is good.

For his answer Socrates turns to medicine. According to Greek medicine of the time, the body is made up of organic elements which correspond to Earth, Water, Air, and Fire. These elements came later to be known as the Humors. In times of health the elements were perfectly balanced, each having its due place in the human system. But at times the equilibrium of the four was upset; one obtained the upper hand and the others suffered defeat. Whence certain cures like blood-letting and other purgations arose. The problem of the physician was to restore the balance of these elements, adding those which were wanting, subtracting those of which there was an excess. Socrates applied this technique, which was supposed to be peculiar to bodily affairs, to the soul. In the soul he found also a number of elements, reason, spiritedness, and appetite. The healthy soul was the good soul and the end of all men was spiritual health. How this condition was to be brought about was Socrates's main preoccupation; and if the famous Socratic method meant any one thing, it meant purging the soul of excess that it might perform its function normally and freely. It is noticeable that in the reports of his activity which are the main source of our information about him, he never tries to implant an idea already made into the minds of his disciples, but rather prepares them to develop or discover their own ideas. He taught men not what to think but how to think, if I may be permitted a popular *cliché*.

Now if the end of all men is this spiritual balance which is health, it is clear that it must be over-individual, in the sense that no man can be striving for disease. That some men's acts result in disease is obvious, and Socrates is not blind to that fact. But he (rather optimistically) concludes that they sin through ignorance, mistaking a temporary good for a permanent one. Could their minds be properly educated, they would inevitably seek virtue, for virtue is the "natural condition" of the wise, *i.e.*, healthy man.

But these ends present a deeper problem. They control action although they are as yet unrealized. They are ideals waiting for realization, yet determining the behavior of real beings. What sort of existence have they? They cannot be physical things, for physical things obey only the mechanical laws of impact and are Heraclitean in their nature. Whereas ideals act by a kind of attraction, by a pull rather than a push, and are Eleatic. For similar reasons they cannot be merely mental, for then they would be creatures of our own imagination, and would come to birth and go down to death with us. They must be something unchangeable, beyond the reach of time and space, dependent upon nothing but themselves, sovereign. What beings were like that?

The answer was simple enough to an Athenian of Socrates's time. They must belong to the world of mathematics, for they have every feature of the Pythagorean numbers. These numbers were called "forms" by the Pythagoreans for the reason already explained, that their numerals were shapes—figures, as we say still—and not arbitrary symbols like our own. Just how much Socrates developed this notion of the ends of conduct being forms and how much of it is due to his pupil, Plato, is a moot point. Tradition gives most of the credit to Plato, and we shall discuss the theory in greater detail when we come to him. The point must not be forgotten, however, that the germ of the theory at least is in Socrates.

Socrates left us with a world in which most things were Heraclitean controlled by forces which were Eleatic. Our lives were lived on a plane of temporality and change for ends which were immutable and timeless. Immediately a new problem arose. How could Heraclitean man know the Eleatic forms? This problem was not inevitable, but since knowledge was supposed to be a kind of reflection of external reality, a kind of mirroring in the mind of what went on outside the mind, it was believed by certain thinkers, of whom Empedocles will be remembered to have been an early spokesman, that there must be similarity between the knower and the known. On this account, it was necessary to find an Eleatic instrument for the mirroring of Eleatic forms. It must be a state of mind in which the soul was undisturbed. It could not be an analyzing instrument; it could not be manipulative in any sense of the word. It must be purely contemplative. This instrument Socrates found in visions and trances, for he was reputed to be subject to such illuminations. But the more usual road is that of Reason, which proceeds in a more pedestrian but no less sure manner to equal heights. This question, too, will recur in our discussion of Plato. For Socrates, Reason seems to have been our means of discovering "common natures" in things. It collected instances and by induction drew out of them their *physis*. Thus, man must above all cultivate his reason; and by means of the definitions it will provide, he will find his initiation into the world of forms.

Innocent of evil as this doctrine seems, it was the cause of its author's downfall. Once more a gadfly had arisen to plague the Athenians. Anaxagoras, Protagoras, were not enough with their talk of atheism and scepticism; the gods must needs send them another torment in the person of this ugly, barefooted, ironical, unkempt ne'er-do-well. They had imprisoned Anaxagoras, had exiled Protagoras, and what good had it done? They must prove to the world that they would stand no more of this nonsense. They leaped in fury upon Socrates, not seeing that he was provoking it, and gave him poison. It was not strange. Their intuition of his importance was correct. One could not live the Socratic life and be a good citizen. Even Socrates's noble obedience to the law which executed him was an act of defiance to what Athens revered. The youths he had corrupted lived to inaugurate a kind of philosophy which pilloried every Athenian ideal. And as the greatness of Athens dwindled, that of Socratism rose until it dominated all of European thought. Small comfort, that, to Socrates, but smaller to those who put him to death.

Upon the death of Socrates, as upon the death of any great teacher, a number of schools arose, each of which professed to expound his true teaching. The most important of these were the Cyrenaics and the Cynics, each of which emphasized certain elements of the Socratic life as the keynote of Socratism.

The Cyrenaics gathered together under the leadership of Aristippus of Cyrene (435–356 B.C.), a Greek colony on the north African coast. Aristippus had come to Athens as a young man and had been charmed by the personality of Socrates. He had apparently been equally influenced by Protagoras, for his philosophy has its basis in the Protagorean theory of knowledge.

It will be recalled that, according to Protagoras, all knowledge was ultimately reducible to sensations, which were interactions between the human body and the external world. This meant that ultimate impersonal truth was unattainable and that we dwelt in a world highly charged with human connotations. Aristippus seems to have seen that if all of our knowledge is of that nature, knowledge of Socratic forms would be impossible, and that the search for an over-individual end of conduct in knowledge would be in vain.

Yet he is not Protagorean to the extent of denying an end for human strivings. He simply refuses to locate that end in an intellectual realm. On the contrary, he finds that what men live for is pleasure, and sanctifies his finding by pointing out that the Master himself was a *bon vivant* when occasion made it fitting. Plato himself has left us a picture of Socrates's ability to survive pleasures in the *Symposium*. Since, then, pleasure is the universal end, the philosopher's problem is to prevent its defeat by pain; and to do this the Cyrenaics urged the use of prudence. But unhappily they failed to see that prudence is a form of knowledge and that they had already discredited knowledge as a critic of life. Yet their philosophy survived in spite of its inner contradictions, and was reëxpressed later by the Epicureans in a slightly different idiom.

Cyrenaicism is in a way a philosophy of despair. Whenever man's reason fails him, he can throw up the sponge and opt for pleasure. In a society which feels the twilight coming, it is to be expected. But despair can manifest itself also by the opposite tendency, which is expressed in Cynicism, a doctrine attributed to Antisthenes (444–365 B.C.). The Cynic was one of those desperate people who pursue a bit of reasoning relentlessly to its logical conclusion, regardless of its effect upon their lives. Socrates had said, "Virtue is knowledge," and the Cynic determined that anything that might impede knowledge should be rejected. Hence pleasure, worldly goods, fame, social amenities, were all pitched overboard that the philosopher's balloon might rise to the clear heaven of Reason without impediment. The Cynic believed that in acting thus he was restoring man to a state of nature. For reason or knowledge was man's common nature, his *physis,* his Form. And by a kind of punning familiar in philosophic circles, they asked, Is wealth natural; are social conventions natural; is it natural to wear clothes and to live in houses? The Cynic's answer is No. But the Cynic failed to ask the deeper question, How does Human Nature differ from Nature? So in the eighteenth century it became fashionable to decry convention and to admire what was believed to be a more primitive and, hence, more natural form of living. But again the eighteenth-century primitivist failed to ask why the primitive is more natural than the developed, although there were plenty of onlookers with the question on their tongue's end.

Philosophies of escape, both Cyrenaicism and Cynicism, one seeking to drown despair in honey, the other to drown it in gall. Yet both had another motive behind them, the motive of freeing man from the complexities of civilization and making him sovereign in his own right. They both felt the pressure of society hindering man's fullest development and both sought to liberate man from the wheel of vain desire. That they nailed him to another wheel, they did not see. Some, like Hegesias, the Cyrenaic, frankly advocated suicide as the only escape; but suicide is less of an escape than a surrender. It remained for Schopenhauer in the nineteenth century to point out that the problem is insoluble as long as man desires to live, for life itself is the wheel of wheels.

Cynicism had a longer life than Cyrenaicism. Though it too was reëxpressed in a new idiom by the Stoics, it lingered on in its archaic form. And then it was assured of eternality when it became absorbed into primitive Christianity.

Thus Athens paled after the death of Pericles and war began to drain its vitality. Embroiled with its neighbor, Sparta, in a struggle which lasted for a whole generation, it saw the end in the government of the Thirty Tyrants, an oligarchy which in turn gave way to the old democracy. This was the period of Socrates's execution and of the rise of the Socratic schools. But no sooner was order restored in Athens than the democracy began once more to look abroad for power, to spread its influence among its neighbors, to waste its resources in international intrigue. And so great had been its past, that once again its neighbors turned to it for leadership and even the Delian League which Pericles had reduced to subjection was revived. This second burst of energy was not fated to endure long. In the north new force was concentrating in the hands of Philip of Macedon, and within another half century (by

338 B.C.) Athens was subjugated for ever. Yet during her period of decay, there flourished the greatest of her philosophers: Plato and Aristotle.

Plato (427–347 B.C.), a contemporary of both Aristippus and Antisthenes, may be credited with carrying on the most orthodox form of Socratism. Yet Plato is so complex a person that it is very difficult for a man of our time to seize him in his entirety. He was a great social satirist and dramatist whose personages were opinions, and those of his writings which have survived show only occasionally the other side of him. Yet Platonism is a fairly definite body of belief, and one would be unjust to the school he founded if one did not devote a certain amount of attention to it.

If Plato were to be read by a man innocent of the history of philosophy, he would seem to be the recorder of conversations about various ethical subjects, temperance, courage, friendship, love, justice, knowledge, and the like. The reader would note that in the conversations there is a central figure who puts most of the questions and seems to have the fewest opinions of his own. This figure is usually Socrates. He would notice that all the characters of whom he can discover anything are, like Socrates, historical. Well-known playwrights, poets, philosophers, politicians, men about town, soldiers, all figure in them. Some of them, like Charmides, have characters which books of history do not corroborate. He will notice that most of the dialogues are named[1] after one of the speakers, and that the person after whom the dialogue is named usually exemplifies the notion which the dialogue is examining. Thus the *Charmides* examines "temperance" and Charmides himself is temperate; the *Lysis* examines friendship and Lysis is a great friend; the *Theætetus* examines "knowledge" and Theætetus himself is a philosophical genius. He would finally notice that most of the dialogues come to no conclusion and yet one is in very little doubt about what is Plato's general point of view.

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[1] By whom we need not consider here.

Many of them to such a person would seem to be a continuation of the Socratic search for a *physis* or, as we shall now call it, a "form" in matters of conduct. The puzzling element would be the determination of that form. Why does Plato pretend to be defining "temperance," say, when he leaves us in a state of suspense as to what temperance is? Does he wish us to conclude that it is indefinable, that we must remain in doubt as to its nature? One can hardly believe that Plato is advocating scepticism. Rather is he trying to suggest that the forms are not knowable by the ordinary methods of rational analysis. Rational analysis prepares the way, but knowledge of the forms is not the apprehension of a set of definitions. It is rather acquaintance with those individuals who best embody them. Thus when we know Charmides we know temperance; temperance is the characteristic trait of a Charmides. When we know Lysis, we know friendship. When we know Theætetus, we know wisdom. We must see the forms incorporate if we are going to see them in the ordinary walks of life.

This suggestion was not merely a new theory of the world; it was also a criticism of Athens. Athens was aimless, without spiritual control, as Plato saw her, and he tried to be a spokesman of an order in which unwavering ideals would replace inarticulateness and groping. Athens was of course no more aimless than most democracies. After the death of Pericles it had no outstanding direction to its progress, but democracies seldom do have one. Is it not their very essence to be self-guided, which means unguided? That spiritual disorder and a diversity of policies result is true; but are not democracies founded usually to avoid spiritual order and a unity of policy? What people of one mind as to the ends of life has ever rebelled against a king or dictator? There would be obviously no point in shaking off a single ruler if only to substitute for him another clear and definite will. But Plato was not a democrat, had no faith in popular government, and valued order and discipline and unity more than anything else.

The forms were ideals, fixed stars to which men might hitch their wagons. But that gives no clue as to their inner nature. It was clear that they were common elements abstracted from a group of particular things. Were they simply abstract notions invented by the human mind, tools of the human mind, symbols whose existence was secondary to that of the things they symbolized? Or were they entities *sui generis* like the Pythagorean numbers? According to Aristotle, who was a pupil of Plato, they were the latter, and the Platonists in general agreed. They were supposed to be Eleatic beings, "absolute, separate, simple, and everlasting." The particulars, on the other hand, are relative, temporal, changing. Moreover, the forms are hierarchically arranged in order of generality, the Good being somehow more inclusive than any of the others, since, I suppose, all things tend toward the Good and all forms as "ideals" are goods. This hierarchy took on also a generative character later on, so that the Good came to be looked upon not merely as the most inclusive form, the form of all forms, but as their parent. In later Platonism this is especially emphasized; all things flow from the Good. And as the Good is the end of all things, all things were said to strive after the Good. But in Plato himself this double flow is suggested rather than defined, and I doubt whether he suspected what a romantic history his suggestion would have. It is clear that the Good is a transformation of the Mind of Anaxagoras, just as the forms are a transformation of the numbers of the Pythagoreans.[1] But Plato was not conscious of its past history and does not seem to have worried much about such matters. The final characteristic of the world of forms is that the hierarchy is also one of value: the highest form is the best and the lowest the worst. This gave rise to the idea that value varied directly with generality, an idea whose subsequent history was as interesting as that of the Good. Eleatic, hierarchically arranged from best to worst and from most general to less general, possibly the generators of the world of particulars, such were the forms.

As in Socrates, so in Plato the problem arose of how we knew these beings. As we said in discussing Plato's master, our knowledge must be a kind of contemplation, not of manipulation, lest the Eleatic purity of its objects be sullied. The manner in which we attain this contemplation is given in the *Symposium*. Between our souls and the forms there is a strong affinity; in one of the Platonic myths our souls are depicted as preëxisting in their world and our interest in them is a darkened memory of our prenatal environment. This affinity is known as the force of Love. Love in its crudest form is an attraction made upon us by the beauty of bodies, but it opens the way toward higher things. "The true order of going," says Plato, "to the things of love, is to begin from the beauties of earth and mount upwards for the sake of that other beauty, using these as steps only, and from one going on to two, and from two to all fair forms, and from fair forms to fair practices, and from fair practices to fair notions, until from fair notions he arrives at the notion of absolute beauty, and at last knows what the essence of beauty is."[1] By the same steps one could mount to a vision of absolute temperance or courage or any of the other forms discussed by Plato.

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[1] As a matter of fact, it is my personal belief that the forms are in part children of Anaxagoras's qualitative atoms. But this is no place for discussions of interest to specialists alone and I have not thought it right to state my personal belief about so uncertain a matter, as if it were authoritative.

The question now arises of how we realize the forms. They are ideals and if they are to serve us at all, we must know how to bring them down from their heaven. As Plato, like Socrates, was an intellectualist and believed that the will was subservient to the reason, he exacted first a knowledge of the form. Having acquired such a knowledge in detail, we ought to be able to approximate it in our deeds. The sample of this procedure is, of course, *The Republic*. *The Republic,* a bitter criticism of the Athenian democracy, is a definition in the Platonic manner of Justice, knowledge of which was the one thing which the poisoners of Socrates needed.

Plato assumed that Justice is present wherever there are just deeds—that was an implication of the theory of forms as common elements. Hence Justice in individuals is the same as Justice in the state. There is no double standard. Since it is simpler to examine the individual than to examine the state, Plato begins with a description of the just man. A just man may be described as one each of whose faculties is given its due; (he is discussing internal justice, not justice toward others). That community which is the individual is just, when none of its members receives more nor less than his due. But what is his due? The right to excellence. In other words, each part of the individual has a right to be itself fully, but not to the detriment of any other part. The individual has three member faculties, his appetite or desires, his spiritedness, his reason,—the first of which keeps him fed and continues the race, the second of which protects him from his enemies and is the principle of aggression, the third of which keeps the other two in leash and decides matters of right and wrong, true and false. This trinity of faculties, by the way, is roughly approximate to the later trinity of sensation, will, and reason, which after a long history finally bloomed forth in eighteenth-century political science as the legislative, executive, and judicial branches of the government.

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[1] Symposium, p. 211.

The dangers of injustice are that some of these faculties be excessively or insufficiently exercised. If appetite be allowed too great freedom, it will develop into gluttony; if too little, it will become what Aristotle called "anæsthesia." If spiritedness is allowed too great freedom, it will become foolhardiness; if too little, cowardice. Reason, however, will guide them properly, balancing their individual assertiveness, so that appetite is temperate and spiritedness manly, while its own efficiency goes by the name of wisdom. Temperance, manliness, wisdom, these are the three virtues, or excellences, which when realized become Justice.

The state is composed like the individual. It has three types of people in it: the appetitive, who make the best artisans; the spirited, who make the best warriors; the rational, who make the best philosophers. Just as in the individual justice is each faculty's achieving its separate excellence, so in the state, justice is each class's achieving its excellence. The artisans must be good artisans, the warriors good warriors, the philosophers good philosophers. But this is attained only through the efforts of the rational element—the philosophers—to guide the others, to prevent the state from becoming swinish and living for hogwash, or wolfish and living for prey. When philosophers rule, reason rules and the body politic is sane and healthy. From this conception flow Plato's various reforms, of which I shall mention only two. Since there is no telling before birth what class a child will fall into, and since parents try to project their children into the class which they most admire, the education of the young is best left to the state. Children will be taken from their parents soon after birth and, when their predominant traits begin to manifest themselves, will be assigned by the philosophers to the class to which their natures best fit them. Thus the appetitive will be prevented from entering the army or the government, to which in Plato's time family influence might have introduced them. And similarly the son of an artisan who is rational will not be prevented from rising higher in the world because of his parents' ignorance or lack of influence. In the second place, wealth is found by Plato to act as parental love; it is a ladder on which men climb to positions of importance regardless of their merits, while lack of it prevents a good man from succeeding. Hence, away with money; let all wealth be lodged in the state. These and other reforms of Plato's are evidently suggested by actual events of his time and are all devised to reduce to a minimum the blocking of an individual's natural talent.

When one has achieved justice, what has one? What is the good of it? The answer was obvious. Justice was the realization of human nature. It was possible in a Greek world for a thing not to be what it was. One might be a man and yet live like a beast and one might be a beast and yet live like a vegetable. The problem of the Greek was to uncover the true nature of things, which was the *physis* (or form) of the whole class of which the thing in question was a member, and in human affairs so to arrange life that that form should never be obscured. That is why the Greeks devised such terms as *monster, accident, unnatural, perverse,* all of which merely meant things in which there was a divagation from type. In our own day monsters, accidents, perversions, are all accepted calmly enough, for we do not believe that there is a *physis* running through all the members of a class. But by Plato's time the common element was not merely the nature of things; it was the norm as well. This was adumbrated by the Sophists, made more precise by Socrates, fully articulated by Plato, and will be one of the dominant notes in Aristotle. From then on ethics will be a group affair, standards will be criteria not of an individual but of a type, and conformity will be a virtue and eccentricity a vice. Greek ethics is the ethics of normality.

The most influential of Plato's works was a dialogue called the *Timæus.* Timæus was the name of a Pythagorean who gives in this dialogue the Pythagorean account of creation. According to this account, the world was made because of God's goodness which, incapable of envy, desired to produce as many duplicates of itself as possible. The world is the first of these duplicates and stands in relation to God as the body stands in relation to the soul. It is Eleatic in its unity, completely absorbing all the material that exists in its harmonious structure. It is eternal and self-sufficient. The Soul of the World has its seat in the center but spreads throughout the whole. It is older than the world and composed of Pythagorean numbers. Its function is to preserve the world's harmonious order. Timæus next recites the astronomical arrangements of the Creator, the genealogy of the living beings—gods, winged things of the air, aquatic and terrestrial animals, the fabrication of souls, and their relation to their bodies. Then follows a famous passage on human anatomy which is the origin of much mediæval learning, an explanation of our physical structure on the basis of teleology: the body as a whole serving as a vehicle for the head, the limbs to carry the head aloft, the eyes on the front because the front is nobler than the back and more fitted to command, and so on. We need not go into all the details of this extraordinary dialogue, which cannot be appreciated in summary. Suffice it to say that it does not end before it has given an account of physics, physiology, psychology, botany, pathology, and animal evolution. Translated into Latin, this dialogue became the source of much that went by the name of Platonism in the Middle Ages. It was a sort of pagan Bible.

Just how seriously Plato took all this, just how far he would see in our exposition a picture of his philosophy, is a matter of conjecture. One has to be very wary in attributing to him ideas one finds in the dialogues, for after all they are all little dramas. Half of what one says about him is bound to be supplied by one's imagination aided by the testimony of his contemporaries and successors.

His disciples modified his ideas increasingly. They seized upon certain elements of his writings and emphasized them to the detriment of others. The school he founded, the Academy, had a long and involved history and gradually landed in scepticism. But Platonism as a philosophical tradition has a certain unity of doctrine which accentuates the following points, all of which can be found somewhere in Plato's writings.

1. The doctrine of two worlds: the world of sense and the world of intellect, of particulars and of forms. The former is Heraclitean, the latter Eleatic.

2. The hierarchy of forms: the most general and best at the top, the least general and worst at the bottom.

3. The doctrine that the forms generate the sensible world and that the particulars strive upward toward the forms.

4. The transcendence of the ideal: that is, the forms are apart from, not immanent in, the particulars. There is a genuine gulf between form and particular, not merely in thought but in reality.

5. The evaluation of the ideal at the expense of the real: the forms are better than the things they "inform."

It is easy to see why Platonism develops into anti-rationalism, why it is going to be of great service to religion, and why finally it will do more than any other one doctrine to increase the prestige of what is Eleatic.

In spite of Plato's attempt to relate the forms to the world of things, his universe presented an intolerable gulf between the two; and the fact remained that there was no more reason that there should have been any world of particulars at all than that there should not have been. The problem of filling this gulf was left to his famous pupil, Aristotle (384–322 B.C.). Aristotle was not an Athenian by birth, and he spent his early years in Macedon. His residence in Athens, first while studying with Plato and later while teaching at his own school—the Lyceum—was for purely academic purposes and he was never apparently immersed in the life of the city. He was, moreover, opposed to democracy and favored a monarchical order, like that of Philip and Alexander the Great, whose tutor he had been. He lived to see the subjugation of Greece proper by the Macedonians and was, should one wish to speak dramatically, the culmination of Athenian intellectual history.

Aristotle's training as a young man had been scientific. His father was a physician and Aristotle never lost his interest in natural science. Hence when he took up the question of the forms, it was not strange that he should have reoriented philosophy away from the mysticism of Plato toward the naturalism of the colonials.

The forms, every one agreed, are the ends of processes: they are purposes, goals, that toward which things are striving. Hence we shall find them best exemplified in instances of change. But wherever change occurs, there are four elements which are to be considered: (1) that which suffers the change, the matter. For we can always ask "What is being changed?" Matter is the "substance" of the colonials, which underlay all change and was therefore itself immutable. To Aristotle, as to all Greeks, change was the acquisition of new properties by an unchanging substratum. This is, of course, the presupposition of "common sense." We say that we are changing every day and every hour. Yet we say, "I remember that when *I* was a boy . . ." or, "When I am an old man, *I* shall . . ." We punish criminals for what they have done in the past, and we prepare children for what they will do in the future as if they had preserved their identity through time. What is there in all of these cases which remains identical throughout the change? Similarly we speak of a physical object's changing color and shape, being filled and emptied, growing and shrinking, and yet speak of it as the same object. We say that "it" has changed. What is the antecedent of "it"? Aristotle's word for it was "matter" or the "substratum," but he did not mean by matter something necessarily corporeal, having weight and spatiality. Matter might be corporeal and then again it might not be.

(2) We may also ask what caused the change. This cause is the agent, the force of Empedocles. Matter, being inert and characterless, cannot change of its own accord;

therefore some outside force is required to start things going.

(3) We may ask why the change took place, meaning by "why," "for what end." This will be the purpose or "Form," in the technical sense of the word. Aristotle assumed that all changes fulfilled some purpose, either their own or something else's, as Plato did.

(4) We may ask, "What is the specific nature of the change?" meaning, "What properties has it that nothing else has, the possession of which will immediately identify a thing as this particular thing?" This is the "essence." Things have two sets of properties for Aristotle: the essential properties, which all things of the sort must have, and accidental properties, which they may or may not have. Thus a man to be a man, must be not only an animal, but he must also be rational; that is his essence. His color, height, weight, and so on may vary; they are accidents. This means that the essence is a property or group of properties shared by all members of the class; accidents are properties possessed by some but not by all. It should be noted, however, that Aristotle provided for monsters and exceptions. The essence, thus, is a development of the *physis* or common element.

To answer these four questions is to list all the things which determine a change. They are traditionally called the four causes: the material, efficient, final, and formal causes.

For Aristotle there are two kinds of change, natural and artificial. The growth of an egg into an animal is an instance of natural change; the growth of the lumber, stones, mortar, etc., into a house is an instance of artificial change. We properly ask what is the difference between the two and the first answer is, "A natural change is one which occurs without human intervention, while an artificial change is one which is brought about through human agency." Thus a tree grows of its own accord, but lumber turns into a house only under the influence of a house builder. But this description is not precise. Exactly what does the phrase "of its own accord" mean? The best answer is given in Aristotelian language which, though stiff and technical, is best adapted to express Aristotle's meaning. A change, then, is natural when the essence of the changing thing is coincidental with the form. A change, on the other hand, is artificial when one or a group of the accidents of the changing thing is its form. Thus it is the essence of a grain of wheat to grow into a wheat plant; it is one of its accidental properties to turn into food for a crow.

When one hears the statement, "A natural change occurs when the changing object's essence is its form," one immediately inquires how it is possible for a thing to develop into what it essentially is. If a form is the end of change and an essence is the very nature of a thing, does this not imply that a thing may not be what it is? And is this not absurd? An analysis of artificial change in the narrower sense of the word—change wrought by an artist (or artificer)—brings to light a distinction which was, I believe, original with Aristotle and which in his mind solved the difficulty. An artist when he begins a work of art has in mind an "idea"—or "form"—of what he is going to do. That idea controls whatever he does and, if he sticks to it, is realized in the finished product. The idea thus becomes the determining factor in the series of changes which is artistry. It becomes in fact the form or end of the matter which the artist is fashioning. The same remarks hold of the accomplishment of any purpose. We must have the purpose in mind first and then set out to realize it.

It should be remarked in parenthesis that this description of artistry does not necessarily apply to the modern artist. Since the rise of romanticism, it has become customary for some artists to work without a preconceived idea, letting their momentary fancy carry them where it will. It has also become an artistic ambition to be "original," as it is called, to find a certain success in departing from fixed patterns, to emphasize invention rather than standardization. The Greek artists, on the other hand—and we have evidence that this holds good of artists through the Renaissance as well—found their satisfaction in living up to a tradition which they did not invent, in exemplifying as well as possible set rules which were accepted as self-justified. We must never overlook this difference in the old and the new points of view when we read classical æsthetics. Aristotle's statement that the artist starts with an idea of a finished work of art, which idea he proceeds to materialize, is a just description of artists of his time, however little it applies to workmen of our own day.

To close the parenthesis, when is the purpose realized? Only when the work of art is finished. But nevertheless it is always dimly apparent as soon as the work is begun. It molds the work by being in it, so to speak, as any purpose is somehow present in the task of achieving it. This kind of presence was called by Aristotle "potentiality." A form was potential in matter, and the process of realizing the form was a movement from potentiality to "actuality." Nature thus was acting like an artist. Within the seed lay the plant in potentiality. It might never come to fruition—so an artist might be prevented from finishing his work of art—but if it did, it would be one kind of plant and one alone. It cannot divagate from its course. Nature, so to speak, is stubborn. Her ideas are either fulfilled or frustrated; she never changes her mind. Thus, said Aristotle, Art imitates Nature, not that works of art are copies of natural models—he distinctly says that tragedy, for instance, should represent heroes as a little better than they really are, and we know that Greek sculpture never copied literally the human form—but that artistry is an imitation of natural change. As the form is actualized in Nature, so the idea is actualized in Art. The invention of a vocabulary to describe the difference between potentiality and actuality was of the greatest importance for later thought, for it seemed to solve at once the vexing problem of the relation of forms to their objects. They were no longer dwelling in a world apart; they were immanent in things.

Aristotle then applied the lesson he had learned from artistry to all change in Nature. Nature became a set of forms potential in matter realizing themselves. The forms could not be separated from matter, as he says repeatedly, except for purposes of discussion. Since thought proceeds by analysis, it discusses forms without discussing matter, but the separation which this suggests is by no means real. We discuss the shapes of objects without discussing their volume, or the colors of objects without discussing their shapes, but we do not mean that colors and shapes and volumes exist in separation from one another. In other words, thought is not a picture of Nature and we must be careful not to imagine that our ideas are simple copies of what exists. If they were, we could argue from ideas to reality; and we know that many of our thoughts represent nothing at all, fictions, illusions, possibilities. Hence we must constantly control our thoughts by careful observation to see whether or not we are wandering from fact. How in turn we can control observation is another question which we cannot discuss here, much as it deserves discussion.

We have said that natural change is a change in which the essence is the form. Thus for a child to grow into a rational animal is natural; for him to grow into the president of the United States is artificial. For it is essential that a man be rational; it is accidental that he be the executive of his country. But the essence of an object is a class property and not an individual property: all men are rational animals; some are prospective presidents. Each individual object has its own essence—that which differentiates it from everything else—but when we speak of individuals, we are speaking of classes of one member, so that even here the essence is really a property of the class. It is in fact the *physis* or common element, now taking on a slightly new meaning. Things, then, when they go through a natural change, realize their "natures"; they become what they *really* are and not what they accidentally are. The "natural" becomes more of a norm than ever now, and such words as "unnatural" and "accidental" become more and more gravely derogatory. Hence the task of thought for Aristotle is the discovery of essences, and logic is the art of controlling thought. The untangling of the laws of thought from practical confusion, the systematizing of correct thinking, is one of Aristotle's greatest claims to fame. He had plenty of material in the arguments of the Sophists and the speeches of the orators and rhetoricians to work on and could, of course, never have built up the amazing structure of his system of logic without it. Others before him had perceived certain rules—Socrates had spoken of definition by induction; Parmenides, for that matter, had in practice distinguished between the conceivable and the inconceivable, a distinction which may seem obvious but which is nevertheless extremely hard to define. Aristotle, however, gathered together all this and out of it gave Europe a definite technique of thinking.

It reposed upon the following basis. All things were members of classes; in all members of a natural class was a common element (the *physis*); when this was discovered the discoverer was in possession of the absolute truth about these objects,—their essence. But essences were in nature forms. Hence the discoverer thus knew the forms. The forms, like those of Plato, were hierarchically arranged from the most general to the most specific, and the more specific were somehow implied in the general, so that if you knew the latter you had at least potential knowledge of the former. Reasoning was the art of starting from these general premises and actualizing the potential knowledge which was in them. This was done by means of the famous syllogism, which was a form of reasoning based upon the possible interrelations of classes or better essences. It is obvious that syllogistic reasoning was, as Professor Wendell Bush once put it, a logic of exposition rather than of discovery, and that, indeed, was what it was intended to be. Certainly if things do fall into classes, as Aristotle described them, all that could be discovered was their possible interrelations.

By means of this logic Aristotle was able to systematize most of the knowledge of his time. We do not have all that he wrote and we do have a number of things ascribed to him which he did not write, but in what we have we can see the method at work with exquisite precision. It consists of discussing in all branches of science what is form and what is matter, how the form is realized, and what natural classes things fall into.

Thus in his treatment of psychology, we find him noting that the body is the matter and that its correlative form—or purpose—is the soul. The soul is the purpose or end of the body and, since the body is an instrument, we can discover its *form* only by discovering what the body is good for. We observe that all living things nourish themselves and reproduce themselves; thus the soul of all life taken in a lump is nutrition and reproduction. But some bodies do that and more: animals and men also have sensations; they see, hear, taste, and so on. Therefore their soul, or form, is sensation as well as nutrition and reproduction. Of the class which has sensation, men have also the power to think, *intellection;* so that the human soul, or form, the purpose of the human body, is vegetative, sensitive, and intellective. This simply means that the human body is an instrument of feeding, reproducing, feeling, and thinking. But now, to continue, the lower parts of the soul stand as "matter" to the upper parts; that is, they are instruments which serve higher ends, just as the body as a whole serves the soul as a whole. The purpose (form or soul) of vegetation is sensation; that of sensation is thinking. But thinking itself has a purpose or soul,—to wit, what has been called the "creative reason." Much mystery has surrounded this concept, for Aristotle said that it came to us from without, that it did not use the body, that it was utterly incorporeal, that it was immortal. Yet at the same time he said that forms and their matter are never separated except for purposes of discussion. How are we to reconcile the two?

In his discussion of the universe as a whole, Aristotle also speaks of the matter and the form. The form of the universe is the eternal and harmonious order which it exhibits throughout. Things are perfectly balanced in this great mechanism which runs itself. What does it run for? For the sake of being an order. It has no other *raison d'être;* to be an order is self-sufficient. The order in the universe, potential in its matter, is in fact always actual, for in the universe *as a whole* everything is already accomplished, finished. If, however, we were to separate the order from that which achieves it, we should speak of it as attracting the matter to it, as the object of desire attracts desire, as the full-grown tree attracts the seed. The great difference between my examples and the form of the world is that they are realized in time, whereas its form has existed from all eternity. The form of the world is always real; the form of the seed is realized only after a period of growth. The form of the world, or the universal order, is therefore the moving power in the universe. That it is a substance is perfectly true; all essences are substances, and the Prime Mover, as the form of the universe is called, is the essence of the world-as-a-whole. I do not pretend that Aristotle is always clear on this point. At times he speaks of the Prime Mover in such a way as to suggest that it transcends the universe. If it does, it is the one form which is separable from its matter. That has been the opinion of the Aristotelian commentators, unless they happened to have a theology in which a separate Prime Mover did not fit. At any rate, before many centuries shall have elapsed, it will have fused with Plato's Form of the Good and the Pythagorean One and become Jehovah.

In Aristotle, then, if one remembers that he is speaking of the universe as a whole, the Prime Mover is its form. Considered by itself, it is the essence of all things taken together. But if it be the essence of all things, it must be of the nature of thought, for what is thought but the essence of things dematerialized? The form of the world is then thought, but it is also the order and essence of all things. What wonder, therefore, that in the human being that element which is most purely intellectual should be identical with the Prime Mover? The mystery becomes a bit clearer when we see that the creative reason is the universal order as exhibited in our own lives, conscious to us since it is a part of us, eternal because it is on a small scale what the form of the world is on a large. It is immortal because it is always the same—there is only one world order. It comes from without—for not everyone achieves it; it is the form of the soul as the soul is the form of the body, and all forms are not realized. It does not utilize the body because it utilizes the soul. But the soul utilizes the body. There is no gap to leap between it and the soul.

It is then the last step in an ascending scale which may or may not be reached. All life is aiming at it; man may reach it. Its activity—*i.e.,* the life which exhibits it—is the noblest and best.

Aristotle's *Nichomachean Ethics* explains in detail what that life would be.

Since all acts have an end (a form), the end is the good of an act; the form of conduct is its justification. But the form of natural change can only be discovered by a discovery of the essence of that which changes. The essence is the element common to all members of a given class. The common element of all men is that which distinguishes them from the lower kinds of life and is, as we have seen, reason. Thus the life of reason is the end of human life and hence the highest good. It is happiness; not pleasure, but good fortune.

If reason is the maintenance of order, we must next inquire how order may be maintained in human conduct. We shall find that we have two parts to our life, the part which has to do with growth and sensation—the irrational part of the soul—and the part which has to do with reason. Were we disembodied reasons, our task would be easy:

ethics would be logic. But we are complex beings. We must think of our double nature, and therein lies the trouble. We must perfect both the irrational and the rational sides of our lives. The irrational by its very nature cannot learn by instruction; it has to be trained like an animal or a plant, by having certain habits instilled in it. Its virtue (or excellence) consists in being as good an animal or plant as possible. But being a member of a community in which reason is supposed to be predominant, it must be so trained that a man's life may achieve its ultimate perfection in the creative reason. Hence the virtues of the human being fall into two groups,—the first, the intellectual: wisdom and prudence; the second, the ethical: liberality and temperance. Wisdom is, of course, correct thinking for its own sake; prudence is thinking in reference to conduct. Liberality is giving in on the right occasions to a desire or a capacity or a faculty; temperance is the checking of one. The first group is fostered by teaching; the second, as I have said, by habit.

It is obviously wisdom and prudence which must train the human being in habits which will make for his happiness, as in Plato it was reason which administered justice to appetite and spiritedness. In considering habit forming, we must see that each of our capacities receives its just due and no more; each must develop its form and not interfere with the development of other forms. Once again in Greek philosophies the notion enters of a mean between extremes, for there is an excessive and defective use of each of our faculties and we must avoid both. We may be over-liberal or over-stingy.

Examples of the specific virtues may not be superfluous at this point. Take the case of courage (literally, "manliness"). Courage is properly aroused in the meeting of danger. Two courses are possible, either rushing in with too great liberality, or running away with too little. In the former case, the indiscriminate courting of danger, we have foolhardiness; in the latter, the indiscriminate shunning of danger, we have cowardice. Aristotle in his own life gave an instance of this type of courage. When after the death of his patron, Alexander the Great, the Athenians revolted against their Macedonian masters, he was accused of impiety—the favorite recipe of democrats then as now for ridding themselves of philosophers. Instead of meeting the charges, which he knew were a mere pretext for doing away with him, and undergoing a mock trial, he left to Socrates the doubtful glory of martyrdom and fled. It is often more manly not to make the melodramatic gesture.

Another example of the mean is temperance. The occasion for temperance is indulgence in sensory pleasures. On the one hand, one can always give in to temptation which results in licentiousness; and on the other, always flee from it—anæsthesia. Wittiness, again, lies between the constant joking of the buffoon and the never joking of the boor. (It is worth remembering that man, according to Aristotle, was under the moral obligation of being witty on the right occasions.) These extremes are, it goes without saying, not mathematically determined. Foolhardiness is more opposed to courage than cowardice; licentiousness more opposed to temperance than anæsthesia. The rule of seeking the mean is practical and therefore inexact. Aristotle has no illusions about the exactness of ethics. He is simply furnishing a common-sense account of how to attain what he thinks is the most worthy life: the life most in accordance with man's essential nature.

The irrational virtues are, as I have said, no end in themselves; they are rather a preliminary to the exercise of creative reason. They free the mind from preoccupations that it may think creatively. Creative thinking is of course not the field of ethics at all, but rather that of logic. Its goal, however, is man's happiness and when man is happy, he is sovereign, self-sufficient. Sovereignty was hinted at in Socrates's death, as in the *Antigone,* in both of these characters refusing to be bound by any law other than that of the gods. The man who is sovereign is free from external dominion. His life is like that of God in that he is purely active—in the Greek sense of the word—an agent, not a patient. He is independent of all chance happenings and thus lives the life of law and order. But as the creative reason is a part of the Prime Mover, the law which his life exemplifies is that which governs the world as a whole.

We have mentioned but a fraction of Aristotle's teachings. Like Plato, he is so richly suggestive that anything other than a full account of all he did is bound to be disappointing. We have not touched here upon his *Politics* nor his *Poetics,* both extremely influential books. The *Poetics* completes the *Ethics* as a theory of what man makes as opposed to what he does, and has for centuries been a Bible for æstheticians. The *Politics* is a continuation of the *Ethics* showing how a state can be organized in which happiness will be possible. But both of these books, as well as the *Physics* and a host of minor treatises, must be left to the reader's personal curiosity. Space does not permit discussing them here.

One of Aristotle's purposes was to systematize and organize the wisdom of his predecessors,[1] so that he stands in a sense at the end of Athenian philosophy. His contemporaries, Epicurus and Zeno the Stoic, were rather the beginners of a new tradition than the continuators of an old one.

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[1] See *Metaphysics,* p. 993 b.

They too had their roots in the past, as we shall see, but their influence was in the new regions of the western world, in Rome particularly, and not in Athens. The metaphysical system of Aristotle remained the greatest bit of logical architecture in Greece, and little was done to modify it. For centuries it was the model; and we shall see later how it furnished much of the structure of Christian theology, the subject matter of which came either from the Orient or from Plato and the Platonists. In spite, however, of Aristotle's culminating a tradition, he begins one also. From his time on he will stand with Plato as the great authority in things philosophical. But we must wait until a later chapter for the development of that idea.

The tradition that had begun before the death of Socrates, of seeking the goal of life, continued for two or three generations alongside of the metaphysical and logical inquiries of Plato and Aristotle. But by the time of Aristotle's old age, it was fairly well decided that the highest good was what we have called "sovereignty," meaning not dominion over others but independence of all. A man in such a condition is self-ruled, lacking nothing. He is, as Aristotle described him, like the Mind of Anaxagoras, "the thinnest of all things and the purest," or like Parmenides's Being, "complete, immovable, and without end." He is purely active, free from "passion," by which was meant, untouched by external influences. He is a human incarnation of the Eleatic qualities.

But various schools of thought arose which, although they did not differ on the end of life in its more general outlines, yet could not agree on the method of attaining it. And as a consequence a variety of ethical traditions arose.

The first of these is the tradition of Pyrrhonism, a doctrine which takes its name from that of Pyrrho of Elis, a man born about thirty years after the death of Socrates and living to within twenty years before the death of Aristotle. Pyrrho seems to have been a dialectician much after the Sophistic pattern, and his general theory of knowledge is not unlike that of Protagoras. Current belief, however, which makes Protagoras a Heraclitean, makes Pyrrho a follower of Democritus. But Pyrrho was interested in metaphysics no more than Protagoras; he was concerned with finding the most satisfactory way of living. For metaphysics was to him a useless occupation. No metaphysician seemed capable of reaching a truth which any other metaphysician would accept. On all questions they disagreed. To listen to them was merely to invite vain fatigue and to end in as great ignorance as that with which one began. The reason for this is plain.

All thinking rests upon certain premises or presuppositions which cannot be proved, just as theorems rest upon axioms. Since the axioms are unprovable, one man, it was maintained, has as great a right to his own opinion as another. Why is not the opposite of an axiom as good as the axiom itself? Had Pyrrho lived in our own day, he might have found a corroboration of his views in the rise of non-Euclidean geometries, which are often said to be all equally true and yet mutually contradictory.

Yet men do choose one premise rather than another. Why is it? Because it agrees with our experience, we say; that is, because it expresses our observations. Here the Democritean theory of perception enters. If perception actually revealed Nature to us as she is, we might have some reason to follow it. But Nature is atoms and the void; perception is colors, sounds, tastes, and so on. These sensory patterns are not truth. They are merely the effects upon us of the atoms which we never see and can only vaguely imagine. Hence neither reason nor sensation can give us true knowledge.

What, then, is one to do? One is to withhold judgment and live in an attitude of doubt. This agnosticism or scepticism is, however, no evil, for from it results not the bitter arguments of the schools but the imperturbability, the peace of mind of the Sage. In other words, the greatest good, sovereignty, is achieved through willful ignorance; and we are back where Socrates was when the Oracle called him the wisest man in Greece because he alone knew that he knew nothing. Knowledge is for a Democritean a "passion"—something done unto one from without—like the emotions. One can become its victim, as one can become the victim of appetite, love, anger, or any other emotional disturbance. So long as one has peace of mind, one does not need knowledge.

It was not strange that this doctrine should have eventually passed into the Academy, the school of Plato. For in Plato there had been more than a little scepticism, as we tried to make clear in discussing him. For what are his dialogues but a battle of ideas in which there is no victory? Who, reading most of them, can say, "Here is Plato's own doctrine," and, "Here is his opponents'"? Even in the *Timæus,* which is usually considered extremely Platonic and is the basis of much that is called Platonism, the creation myth which is its subject matter is put into the mouth of a Pythagorean.

But aside from the possible scepticism of Plato himself, his followers came gradually to spend more and more of their time in argument and less in creative thinking. They occupied themselves with criticising their rivals and soon reached the point of criticising everyone, with the result that no opinion, not even their own, seemed well founded. Hence dialectic, an art in which the Academicians excelled, was no road to truth but merely a fortification for opinion. Thus reason, which had been the stronghold of dominant Greek thought, was finally undermined by its own defenders, and for over a century they set to work removing the blasted stones one by one. They were not content until they had demolished formal logic, metaphysics and natural science, theology and ethics. It was obviously the triumphant emergence of an heretical strain in Greek philosophy which had earlier appeared in the Heraclitean and the Sophist. But its emergence marked the approaching end of the Greek mind as Greek, for if any one thing had been more characteristic of the Greek mind than any other, it was the assumption that reason could lead man to certainty. With reason gone, Athens went too, and we must be prepared for a new type of philosophic interest, a type in which non-rational knowledge—and that not necessarily sensation—will be sought and found and wherein the preparation will not be scientific but moral.

Contemporaneous with scepticism there grew up a second tradition whose foundation and whose aims were similar. An admirer of Pyrrho, Epicurus (341–270) was its initiator, and its influence was even greater.

Epicurus as well as Pyrrho seems to have been disgusted with metaphysics. "Blest youth," he writes to a friend, "set sail in your bark and flee from every form of culture." For culture is, after all, an illusion of truth, based as it is upon sensation. The only good in life is peace of mind and peace of mind can only be attained if an individual be free from fear, fear of pain, fear of the gods and death, fear of ignorance. Pain is avoided, in the Cyrenaic way, by seeking simple pleasures. "Live unknown," says Epicurus. Fame is a mockery. Avoid riches; they bring but trouble in their train. Renounce luxury and extravagant living; they both entail subsequent suffering. The only recipe for attaining pleasure is following "Nature," living as simply as possible. "The man who follows nature and not vain opinions is independent in all things. For in reference to what is enough for nature, every possession is riches, but in reference to unlimited desires even great wealth is [not riches but poverty]." [1]

Epicurus's hedonism, it should be noted in passing, may not be mere desire for avoiding the disagreeable. For it was a theory of Greek medicine, mentioned in Plato's *Philebus,* that pleasure was an index of health and pain an index of disease. The body, as we have said above, was composed of what later became the four humors, the blood, black bile, yellow bile, and phlegm, which in a state of health—a state of "nature"—were evenly balanced and in a state of disease—an unnatural state—were unbalanced. As one's body approached equilibrium, one felt pleasure; but as the equilibrium was upset, pain arose. Hence the hedonistic program was therapeutic as well as moral.

In the second place, peace of mind was attacked by fear of death and of the gods. Fear of death is caused by a belief that in death we shall be conscious. But on the contrary, death is a deprivation of all sensation; we are completely extinguished when life goes from us. "Death, the most terrifying of ills, is nothing to us, since so long as we exist, death is not with us; but when death comes, then we do not exist." It can be nothing to us for—here Democritus aids him—we are nothing more than an impermanent conglomeration of atoms. Our soul is as material as the rest of us, composed of fire atoms, heat, and a stiller, subtler substance. Hence when the body disintegrates, there is every reason to believe that it disintegrates too.

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[1] These and other quotations from Cyril Bailey's *Epicurus, the Extant Remains,* Oxford, 1926.

Similar reasoning applies to the gods. Epicurus, one feels, would have liked to make them immaterial, for the immaterial alone is absolutely impassive in Greek thought. Yet nothing in the Epicurean universe is immaterial except the Void, and of course the gods could not be vacua. Hence he depicts them as almost immaterial, being made of very subtle and attenuated stuff,—what Haeckel, the German philosopher, called, in speaking of another god, "gaseous vertebrates." The advantage of this description is that it makes them perfectly serene and blissful, as gods should be and as men would like to be. But if the gods have achieved that complete felicity, it is incredible that they should ever lend an ear to human complaints. They neither are vexed by our shortcomings nor pleased by our attentions. Hence man should cease to placate them or to curry favor with them. We have nothing to fear or to hope from them, though we should worship them as one should worship anything that is perfect. They live in complete indifference to this world, contemplating it from their eyrie in heaven but unmoved by what they see. So, one gathers, the Sage on earth would dwell, untouched by the accidents of fortune.

How seriously Epicurus took his gods is no longer possible to determine. But they have no service to perform in his universe; they are simply additional members of the cosmic population. Would they have been put in at all if popular belief had not included them? It is unlikely. People feared them and Epicurus wished to show that their fear was unreasonable. The same thing is true of natural law in general. Epicurus was a good Democritean up to a certain point—up to the point where it would help him achieve peace of mind. But one element in Democriteanism distressed him—the reign of physical law. If everything that occurred was attributable to the impact of atoms, then human life was also, and it was useless to urge men to follow one course rather than another. Whatever they did was done by the atoms over which they had no control. They were then slaves of the atoms and, far from being sovereign, were at the mercy of every wind that blew. Hence Epicurus introduced into the theory of Atomism an element which robbed it of all its beauty but which made it more fitting as a background for Epicureanism. The atoms, instead of moving in accordance with the laws of physics, suddenly swerved from their downward path and thus by chance built up greater wholes. That chance swerving was an element of free will in nature itself and an opportunity for achieving good and avoiding evil.

It is obvious that such a treatment of natural science would have been impossible in the palmier days of Greek philosophy. But Epicurus was an admirer of Pyrrho and had no supreme faith in the Reason. Peace of mind was better than consistency and consistency must be sacrificed to it if the two clashed. For in the long run, as Aristippus had maintained, knowledge is based upon sensation and sensation tells us nothing of the hidden things of nature. Whatever goes beyond the fresh data of perception is bound to be more or less unreliable; so why be over-scrupulous in our treatment of it? For, as Epicurus says, "If we were not troubled by our suspicions of the phenomena of the sky and about death, fearing that it concerns us, and also by our failure to grasp the limits of pains and desires, we should have no need of natural science." One can easily see to what extravagances such a program might lead one and how accidental the truth of Epicurus's physical theories is. He is a logical as well as an ethical hedonist.

Curiously enough, peace of mind or sovereignty was preached by Epicurus's contemporaries, the Stoics, on an entirely different basis. Whereas Epicurus preached the renunciation of pain, they preached the renunciation of both pleasure and pain, following the lead of the Cynics rather than that of the Cyrenaics. Emotions were to them lumped in a body as evils, since they were by definition things-done-to-a-person (passions) and not things-done-by-the-person (acts). To reach the point where one is indifferent to the emotions, one must have knowledge; but truth is no longer—as it seemed to be in Epicurus—colored by our desires, it is independent of our desires. We must adjust our conduct to truth and make reason dominate the will; in the Epicurean doctrine there is a hint of the later theory that the will must dominate the reason. Absolute indifference (apathy) is, to be sure, never achieved by man but stands as an ideal toward which man must strive.

The fundamental problem of the Stoic, as of the Epicurean, is to show that the universe is of such a nature as to make his ethical program reasonable. But whereas the Epicurean sees peace of mind threatened by fear, the Stoic finds it threatened by hope. We hope to be of some moment in history, to make our impress on the world, to change the course of events. We think, as the Epicureans did, that we are free to upset natural law. We must first wake up to the fact that this ambition is futile. We are, on the contrary, caught in the toils of implacable destiny. The world and everything in it, including ourselves, is matter acted upon by force. Every bit of motion is determined mechanically; nothing happens by chance. Things are, moreover, bound together organically so that, as in Empedocles, the universe lives its own life and has its own birth and death. It comes into being and passes away without consulting us, nor can we hasten its birth nor retard its death. Its history is a series of recurrent cycles in which our lives are minor incidents. What we do, then, as what anything else does, is the result of natural causation. This picture, which filled the Epicurean with horror, gives peace to the Stoic, for he says, "Since we are helpless, let us cease to struggle."

But we have a certain pride in our individuality, a hope of achievement. Is this impossible of satisfaction? Not entirely, answers the Stoic, for we can recognize what our function is in the cosmic organism and perform that function as well as possible. To do this is to submit to universal law and thus to resign oneself to be what one is. So Plato had taught in a measure in *The Republic* when he urged artisans to be good artisans and warriors to be good warriors. But Plato had no notion that resignation would realize this end. One must control the political organism; and as for the cosmic, therein man was simply man, not this man nor that. But the Stoic's notion of an organismic world had no place left for the Forms. Morality was an individual affair; each man must achieve his own good; salvation is not for the race; mankind is nothing except an empty idea. This emphasis upon the individual as a necessary part of the whole became a dominant note in Stoicism and one whose reverberations were most extended. For it immediately gave to every human being the dignity of every other and wiped out with one stroke the inequalities of pagan society. The slave became as important to the cosmos as the emperor, and it was characteristic of Stoicism that its adherents should be of all social ranks. Thus in its later days, we find Marcus Aurelius and Epictetus, its two most famous exponents, each at opposite ends of the social scale.

The same theory that led to the eliminating of social differences led also to the eliminating of national. Man was no longer Greek and Barbarian; he was now man, not like every other man, but equally essential to that state which is the cosmos. The Dacian and the Scythian, the Greek and the Persian, might belong to different nations, but such citizenship did not go very deep. What mattered more was their fellowship in the world. They were cosmopolitans before they were Greeks. Nationality, in Aristotelian language, had become accidental, not essential. Both Plato and Aristotle had suggested this, but they were both too Greek to believe it. They always thought of man as the native citizen of a Greek city state. They were, above all, interested in reforming their own countries and were not, like the Epicureans and Stoics, concerned with man in the abstract, though they may have thought they were.

It should never be forgotten that these two schools were the offspring of foreigners living in Athens, and in a decaying Athens. No Athenian could look upon the rise of Macedon with equanimity, could see the passing of the Greek genius with apathy. Epicurus, to be sure, was of Athenian lineage, but seems to have been born in Samos and not to have come to Athens until his eighteenth year. Zeno, the founder of Stoicism, was born in Cyprus, and Cleanthes, his associate, was born in the Troad. The fate of Athens could mean little to such people. They were not rooted there; it was but their temporary home. They were interested in the intellectual past of Athens, not in her stones nor even in her children. How easy it was for them to deprecate political labor, to point out the vanity of national ambition! They had nothing to gain and everything to lose by a nationalistic renascence. The first thing an awakened Athens would have done would have been to expel them. But the most insular and proud of cities had become a center of cosmopolitanism, just as Paris, capital of the most intensely nationalistic of countries, has for years been a center of internationalism.

Yet out of this new spirit was to grow something whose appearance was not even hinted at in those days. I am referring to the rise of Christianity. It would have been impossible if Stoicism had not first broken down social and national barriers, if Epicureanism had not destroyed belief in polytheism, if Pyrrhonism had not weakened the dominion of the reason. But with two hundred years of such preparation behind it, its triumph was not so miraculous as inevitable.

The philosophic schools continued in Athens until the sixth century of our own era. But their work was largely critical. It was not unlike the work of our American graduate schools, the study of other men's ideas to the exclusion of one's own. Their history is obscure and unimportant. The main thing to remember about them is that they formed a link between the old Greece of the peninsula and the new Greece that was to arise in Byzantium. We cannot trace this history here, but let us not forget that Greek culture was never really dead. It lived on there in the East until, in the fifteenth century, it was brought back to western Europe; and it was one of the great fertilizing agencies of what is now called the Renaissance.

Chapter III

ALEXANDRIA AND ROME

While Zeno, Cleanthes, and Epicurus were children, there was founded on one of the mouths of the Nile the city of Alexandria, named after its founder, Alexander the Great. Alexandria was intended to be an outlet to Macedonia for the produce of the Nile valley. But this function grew profitless after the decline in Macedonian supremacy, and the city soon became a gateway not between Macedonia and Egypt but between Orient and Occident,—perhaps the greatest port of its times. It was cosmopolitan from its start, being composed of three distinct populations, Egyptians, Greeks, and Jews, each of which was apparently free to develop its own ideas. Its economic position gave it an importance in cultural history second to no city of its time, and in its heyday it occupied the place which Athens previously had held. But culturally it was what it was commercially and ethnologically, a fusion of East and West; and, interestingly enough, the philosophical doctrine usually called "Alexandrianism" is the doctrine that philosophy must be a welding of many men's thoughts into one system. Aristotle himself had said, in a passage which we have referred to previously, "No one is able to attain the truth adequately, while, on the other hand, no one fails entirely, but everyone says something true about the nature of things, and while individually they contribute little or nothing to the truth, by the union of all a considerable amount is amassed."[1] Men living in a time when they are conscious of a great cultural past are likely to be overwhelmed by it and to feel that the only hope they have of attaining truth is by uniting and systematizing the truths which the past affords them. Philosophically, Alexandria was embarrassed by riches. She had all the lore of Egypt, of Judæa, and of Greece. She set to work to study this lore. Less than a hundred years after her birth, her scholars had begun the translation of the Old Testament into Greek (the Septuagint), and, before many more years were gone, she had the best editors, grammarians, prosodists, lexicographers in the ancient world. At the same time her work in the natural sciences was not unimpressive. She numbered among her scientists Euclid, Eratosthenes, Apollonius of Perga, and the great astronomer and geographer, Ptolemy.

The fusion of eastern and western thought was brought about by the actual intermingling of eastern and western thinkers. The differences between the Hellenic and oriental attitudes on the whole can be reduced to one, the evaluation of man's sovereignty. In the East, because of the hostility of natural forces, or the political organization, or some third thing, man was looked upon as essentially passive. He was dependent first and foremost upon his gods, not only for his existence but for all his achievements. He was unable to attain any end whatsoever without the aid of supernatural forces. Resignation to the Divine Will, as expressed in prayer, comes first into Hellas in the famous hymn of Cleanthes the Stoic, himself an Asiatic. In general, the Greek stands upon his own feet, and the tendency is to make the gods—as in Epicureanism—ideals and not masters. In the Orient, however, personality is a sin, as in orthodox Buddhism, and the one hope of man is to be absorbed into the universe whence he came.

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[1] *Metaphysics,* tr. Ross, p. 993 b.

In the West, as we have seen, the great emphasis was put upon man's activity. Man was essentially an agent, not a patient—it was disgraceful to be acted upon. As Greek thought developed, the gods had less and less to do with the course of events and, though they were to be admired and worshiped, they were not to be propitiated. They were magnified human beings, whereas human beings in oriental thought were their defective images or playthings or creations. Where the Oriental preached resignation, the Greek preached personal effort; where the Oriental preached mysticism, revelation, illumination, the Greek preached reason.

The greatest contrast appears when one considers the fact that the Greeks had no god whose divine function it was to suffer. Their gods were ideal agents, gods of doing. They had no god whose function it was to atone for another's sins, to be unjustly and therefore meritoriously punished. None of their gods was an ascetic, mortifying the flesh. They had gods who had undergone punishment, but not as an end in itself; there was no glorification of sorrow. But as oriental thought gradually passed into the West and assumed there a position of supremacy, the cult of sorrow, terrestrial pessimism, supernaturalism, human passivity, all became a nucleus of doctrine which Greek metaphysics was called upon to rationalize.

The first outstanding figure in Alexandrian thought is Philo the Jew (first century B.C.), whose efforts were directed toward rationalizing the Old Testament. In the past he was thought to have had a predecessor, Aristobulus (second century B.C.), whose existence, however, is at best problematical. It is also generally conceded that notions like his appeared in *Ecclesiasticus,* so that he cannot be thought of as absolutely original. But in the want of other evidence he stands as the initiator of the movement of which I am speaking, and we shall consider him such. The direction he followed in making revelation rational is one taken even today by many Biblical apologists. It was obvious that much that was in the Bible could not be accepted literally if it was to be considered a consistent body of doctrine. Who could believe that Adam and Eve had been able to hide themselves from an all-seeing eye, that the universe was made in six days when time did not even exist before the universe was made, that God, who was not anthropomorphic, could speak? And yet we must believe, says Philo, that the Bible is not nonsensical. Consequently we must see in such statements allegories, not facts. And he proceeds to interpret the Bible figuratively.

Now there are three interesting things about this program which are symptomatic of the times. (1) There is a body of thought which must be believed, whether apparently reasonable or not. This is the introduction of a new test of truth—authority. (2) Allegorical interpretation is not subject to the usual tests of verification. We cannot test it by evidence of a scientific nature, for it is not in the realm of fact. Hence the danger arises of every man's setting himself up as the true or authoritative interpreter, and the necessity will arise of selecting canonical interpreters whose interpretations will make precedent. (3) If the beliefs and their interpretation are both based on authority, knowledge will be directed toward the exposition of authority and not toward the discovery of new knowledge. For the suspicion will grow that discovery is impossible and, later, that to pretend to discover is not only boastful but wicked. Hence when discoveries are made, men are not merely scolded for their presumption but punished for their sin.

It is, it goes without saying, obvious that one cannot interpret an allegory without a key. People have interpreted the *Faerie Queen* as the atomic theory in disguise, but they could not do so unless they knew the atomic theory as well as the *Faerie Queen.* So Philo needed a language into which to translate the Old Testament. He found it in Plato, largely in the *Timæus* and, in characteristic eclectic fashion, in the Logos-doctrine of the Stoics. But before drawing on these pagan sources, Philo had to convince himself that they were not really pagan. This he did by suggesting that they used Jewish sources. No one seems to have raised the impudent question of whether they used them well for, I suppose, all were so glad to have a technique for solving their difficulties that they refused to weaken it by too much criticism.

Philo's universe may be said to split in two like the Platonists'. On the one hand we have the world of passivity (the Platonic world of things), and on the other the world of activity (the Platonic world of forms). Man is passive as regards God, for he is created by Him and illuminated by Him, just as God is active as regards man. Man is absolutely helpless before God, as matter is helpless in the hands of the artist. Our existence, our knowledge, our ends, are all shaped by God; we are His images—but very poor images—as works of art in Plato are poor reproductions of perfect ideas. Hence virtue must be a life in which we realize our form—as in Plato—but as our form is God, we must divest ourselves of personality and live the life of God. But to live the life of God is to follow the Stoic Logos and to become God. How is one to become God? By prayer, by fasting, by abstinence, by turning away from the senses and other "passions." One must in other words be as little of an individual as possible and by self-mortification become that which is non-individual. So the Stoic preached resignation to the cosmic order. The high value put upon the denial of individuality is typical of this period, and we shall see it expanding in Christian form in the theory that pride, pride in the sense of self-assertiveness, is one of the seven deadly sins. The culmination of this movement against self-assertiveness will be found in the Franciscan brotherhood twelve hundred years after the time of Plato.

The union with God is a kind of ecstasy in Philo's mind, and one imagines that it is much like the feeling that the Platonic lover must have been supposed to have before the vision of Absolute Beauty. It is psychologically the mystic experience, and Philo was no doubt acquainted with stories of many men who by self-negation had achieved this supposed height. It is easy to see why a person like Philo should have believed that to know God was to become Him. Knowledge, in the Greeks whom he had studied, was a relation of similars. (This notion, it will be recalled, ran back to Empedocles.) Hence only the good could know goodness, only the virtuous could know virtue, and I daresay that that is why Plato makes the main characters in his dialogues examples of the thing the dialogue is trying to define. But if this argument is carried out, only the godlike could know God. But God has a character which is entirely different from ours. We are limited, individual, separate, impermanent, weak, creatures; He is unlimited, all-inclusive, eternal, omnipotent, a creator. His character, like that of Parmenides's Being, cannot be described, for being all things, He cannot be this any more than that. But there can be only one such being and hence to be really godlike is to be God.

Why was it, however, that Philo advocated asceticism? Because just as the world of spirits was divided between God and Man, so every man was divided between Matter and Spirit. Matter in general is that formless, indescribable, lifeless "thing" implied in the Empedoclean analysis of change as that which is passive (acted upon), and which in Aristotle is potentially everything and actually nothing. Matter in the human being curiously enough becomes the body. Then because Philo is inconsistently Greek enough to believe that the passive is bad and the active good, he identifies matter with evil and spirit with good. Not that matter is actively evil—for the passive could not be that—but because its nature is such that forms incorporated are by their incorporation worse than they were before it. Hence the incorporation of the soul is degradation for it; and one sees that for Philo—as for the Plato of the *Phædo*—one of man's problems is to rise above this degradation. He does this by treating the body with contempt, yielding to none of its demands, freeing himself from it.

But how did the soul ever get entangled in the body? In its preëxistent state it formed part of that band of incorporeal beings who people heaven and whose function we shall see in a moment. Some of the souls are by their nature so lofty, so ætherial, that it never occurs to them to descend upon earth; but others live nearer the earth and, because of curiosity or for educative purposes, enter into human bodies. The soul's incorporation involves the terrible danger of sin and many souls do not overcome this danger. But others do and they live in contempt of the body, thus earning their right to immortality among the blessed. Philo never explains satisfactorily why the souls should incorporate themselves; and it was left to Plotinus, two hundred and fifty years later, to give a reasonable answer. The doctrine of preëxistence is, of course, the one with which we are familiar, as it had been given a certain popularity by Plato, though preached before him by the Pythagoreans who probably derived it from the Orient, to which it returns in Philo.

If Philo's world were left thus, the so-called gap between the forms and the particulars would have been widened rather than filled. In a sense Philo's basic ideas demanded a gap, for the Platonic world of Forms is rapidly becoming heaven and the world of particulars earth, just as his Form of the Good is becoming Jehovah; and for certain purposes heaven and earth, God and man, must be kept apart. They must be kept apart for purposes of creation and judgment. But they must for other purposes be kept together, for the mystic experience demands a fusion of God and man. Philo fills the gap by the theory which seems to be based upon the Platonic suggestion that the forms are generative of particulars and are hierarchically arranged. He fills it by a series of Powers—of which the angels are a personification—which are graded from those closest to God to those closest to Man. The unincorporated souls seem to belong to this group of beings. God, of course, has no need of such beings to operate upon the world, but man is so imperfect that he can approach heaven only step by step. There is a flight of steps between him and God, symbolized by the ladder of angels in Jacob's dream. But how this hierarchy is generated is a more difficult problem, and Philo is not clear about it.

One thing is certain. The Powers of which Philo speaks are to some extent the thoughts of God, just as the power of God to create is Thought, the Logos, as the Stoics and the Gospel of St. John call it. Historically they are Plato's forms. Thus Philo seems to be referring to the fact that some thoughts logically follow from others and the possibility that there might be one thought so inclusive as to imply all others. That thought would be God's and the unfolding of its implications would be creation. This suggests what later became the very important theory of emanation, according to which all creation was a flowing out of God. But since thoughts can move in the direction of conclusion to premise as well as from premise to conclusion, there is suggested in Philo, and made very explicit in later theories of the same general type, that there is a "way up" as well as a "way down." This doctrine allows God to be Eleatic and at the same time productive. Aristotle's solution was that of a Prime Mover who moves by attraction without moving Himself.

One could go to almost any length expounding Philo and never come to the end. It is clear that philosophy of this type, though coherent, has an æsthetic rather than a logical coherence. It would be absurd to pick flaws in it, for—from one point of view—it is all flaw. What its author and admirers demanded was not logical precision but edification. They started with certain beliefs and they wanted the conviction that these beliefs were not only true—which they knew to begin with—but were also explicable. The type of philosophy which begins, to all intents and purposes, in Philo, becomes dominant in Europe for the next fourteen or fifteen hundred years and has not disappeared even today.

The influence of Philo was only indirectly exerted upon his own people. He knew little Hebrew and was far removed from the center of Jewish culture. Though an orthodox Jew, intent upon interpreting the Old Testament and nothing else, he became a Hellenistic philosopher and could be proved, I think, to have had a predominant influence upon the formulation of Christian theology. It was the least the Jews could do for Europe after having given it their God. So Philo really belongs in a movement known as Neo-Platonism, of which the Egyptian Greek, Plotinus, is usually called the founder.

The mystical philosophy of Philo and his friends was constantly fortified by the attacks of the sceptics against the reason. The Academy of Plato in Athens was definitely sceptical by now, and in Alexandria itself one of the most brilliant of the sceptics had taken up his residence. This was Ænesidemus of Cnossus, a Cretan. Ænesidemus allied himself to the Pyrrhonic tradition, though the reasons he gives for his attack on certainty are more systematic and detailed.

These reasons are called the *Ten Tropes,* and deserve one's attention. They are, briefly, statements of the conditions which determine what we know. They are of such a nature that we are prevented from reaching the objective world in itself directly and hence can never discover exactly what it is. To illustrate the matter, suppose we take a given object, a rose, which we try to know.

(1) The rose to one animal would be one thing, to another another. Have we any idea of what a dog, for instance, sees when he sees a rose? The color, shape, size, might all vary according to the type of vision which the animal has. Thus man cannot be said offhand to be alone gifted with perfect—reality-giving—vision. This is not only true of different animals but also (2) of different men. One man is farsighted, another nearsighted; one perceives a difference between blue and yellow, red and green; another may perceive none. Which of these sees "correctly"? Is the so-

called "normal" vision truer or simply more usual than abnormal?

(3) But let us limit ourselves to any one man. Now the rose seems light red to him, now dark red. Its color may be pleasing and its odor displeasing. It may in fact have a number of qualities which we do not perceive at all, and we may perceive qualities in it which are not there, when, for instance, we are fatigued or excited.

(4) Thus our physical condition often determines how the rose will appear. A baby may not see it as sharply outlined as a man, and an aged person may not be able to detect its odor at all, like a man with a cold. We may stroke its petals and, if our fingers are calloused, feel nothing; whereas if they are smooth, we feel them as silky.

(5) The spatial relations of the rose to us will determine whether it be large or small, red or pink or colorless. At a distance it will seem small, near at hand large; at a distance a faint pink or colorless, near at hand red. Is there any "correct" distance at which the real rose will appear?

(6) But we also know that the color and shape of the rose depend upon the medium through which it is seen, as its odor depends on the medium through which it is smelled. Interpose glass or water between your eye and the flower and it will immediately look different, as when—this is obviously not the example of Ænesidemus—we look at something through a magnifying glass. For some purposes we prefer magnifying glasses; yet does such an instrument show us the real rose, or does our naked eye? And if the naked eye, in what medium must we use it?

(7) But now the rose may vary itself. It is not a static lump of matter of a definite quantity which is always the same. As a whole it is, we say, red. But if we separate the petals, we see that they are pale near their base and vary

from point to point. If we chopped the rose up and smelled a pinch of the mixture, the odor would not be that of the rose as a whole. Which is the rose? Other things are in the same situation. We are accustomed to seeing them in certain quantities and imagine that quantity somehow more correct than another. But is it attributable to anything more than custom?

(8) Furthermore, we see the rose in relation to a certain background, in relation to our past memories of other roses associated with it. We never get it by itself, detached from its context. The rose as rose is an unknown quantity.

(9) As we become habituated to the sight of the rose, details drop out and our perception of it grows simplified, as a man living near an elevated train in New York soon becomes accustomed to the sound and hears nothing. We see what we are looking for, what is unexpected; and how we shall see is as determined by custom and habit as what we shall see.

(10) Thus our education, our social conditions, our prejudices, may all determine what the rose will be. A horticulturist may see a hundred different details which escape the eye of a layman in horticulture, to whom all red roses will look alike. To certain Englishmen red roses will be symbols of a great royal house and the very aspect of the flower is loaded with meanings which are absent to the eye of an American.

If these principles are true, it is clearly seen that if there is any such thing as a rose-in-itself, we don't know what it is. Extend the principles to things other than roses, and they become sources of even graver difficulty. For the sum total of our knowledge is a compilation of data of perception; and if these data are convicted of unreliability, where are we? Knowledge is relative to observer and observed and the medium between them; without these three items we have no knowledge. Confronted with these difficulties, one can see why people turned in their desire for truth to authority and mystic visions.

Ænesidemus did not content himself with attacking perception, but pushed on to the roots of science itself. Science has often been thought of as the knowledge of causes. It has been said to explain things through causality, pointing out why things happen by relating them to other things which are said to produce them by acting upon them. It must not be forgotten that to men of this time a cause and an effect were two different things, the effect occurring after the cause and "because of" the action of the cause upon that which is to become the effect. Furthermore, a body changed by taking on a character or quality which it did not have before but which presumably was given to it by the cause. Thus if one billiard ball hit another which was at rest, it imparted its motion to the resting billiard ball which then proceeded to move.

But this meant that the cause must have "within" it the quality which it passed on. Otherwise where could it have come from? Thus a billiard ball, to move another, must actually move itself; a ball at rest could move nothing. This led to a postulate about causation which is of the greatest consequence in the subsequent history of philosophy and which had appeared in earlier times, although less openly. It is that causes and effects must be similar.

This is an innocent enough looking postulate but see what it implies.

(1) It implies first that if the mind is immaterial and the body material, our wishes cannot bring about bodily movements nor can physical impressions upon our sense organs produce sensations. When we decide to open a

window or close a door, we think that our decision—which is mental—is the cause of our act—which is physical. But to open a window is motion of a material object—our body—through space to the window, and that motion must come from a precedent motion, the cause. But if the decision is the cause, the cause is immaterial and hence has no possibility of moving. Hence it cannot produce motion and hence cannot be the cause of our act. The reverse of this argument is applied to the production of sensation, the problem there being what happens to the motion of the material objects impinging on our sense organs when it turns into a sensation. The answer, of course, could not be given so long as the causal postulate was held and we were in the condition of believing in something which we could not rationally justify. The last time we heard of such a dilemma was in the section on Zeno, the disciple of Parmenides. Now, as then, the dilemma is, deny common sense and stick to reason, deny reason and stick to common sense.

(2) We seem to be left with the conclusion that at least similar things can cause each other. But suppose a rolling billiard ball hits one at rest. How is the motion actually transferred from one to the other? Motion can only occur in material objects; but, unless the two balls fuse and become one, there is always a gap between them, a gap which has to be traversed by the motion. The gap may be filled with air or some other medium, but it cannot be completely filled or there would be no room for the moving balls to move in. The moving particles may be as small as you please, but they must be external to one another, and there will always be some gap which the motion must cross and yet which it cannot reasonably be said to cross. There is therefore a moment when the moving ball is not moving

and that is unfortunately just when it is supposed to be acting as a cause.

The attack upon causality was an attack upon the validity of science. Ænesidemus next proceeded to undermine ethics. The ethical theories of his day, Epicureanism, Stoicism, Platonism, and Aristotelianism all presupposed an intellectualistic psychology of conduct. That is, they all assumed that man could rationally determine what his goal should be and focus his acts upon its attainment, bending volition to the intellect. The Epicurean was least intellectualistic, but he too brought in the reason to discriminate between pleasures which would entail subsequent pain and those which would not. Ænesidemus believed that pleasure and pain were not ends of conduct but springs of conduct. We did not reason out what would be pleasurable and what painful, but we acted as a result of pleasure and pain. Thought did not even enter in; it was entirely a question of immediate feeling. Hence systems of ethics which were based upon the search for good were in his eyes bound to be futile. Ænesidemus did not say that we should seek pleasure and avoid pain; he said that we do and cannot do otherwise.

The scepticism thus developed in Alexandria did not die. It was very useful in later years to Christianity, as showing the absurdity of Greek philosophies. The Christian was essentially a sceptic in the same way that Ænesidemus was. Worldly knowledge unaided by divine was impotent. Apathy, peace of mind, high-mindedness, what were these but the vainglorious ambitions of men who knew not God? Reason was as silly as the sceptics showed it to be, and in later years arguments like those of Ænesidemus became commonplaces of Christian apologists.

Ænesidemus, naturally, was not interested in the fortunes of Christianity. He and his school were more interested in attacking the pretensions of the philosophers and scientists. We have the names of eight of his successors, carrying us down to the third or fourth century of our own era. The school's constructive work consisted in the systematizing of the *Ten Tropes,* reducing them in number, and in emphasizing the fact that in spite of the irrationality of our experience, it is the most trustworthy guide that we have. This seems like a platitude to us, but it was radicalism to the ancients. As late as Galileo's time, men suspected that experiments which contradicted reason were legerdemain; and in the early years of the Christian era, science's progress was jeopardized by the very people whom the sceptics were attacking. Many of these men were physicians, and one has only to read of the medical theories entertained by some of their contemporaries to realize how much their attacks were justified. The valuable lessons of Hippocrates seem to have been forgotten; and even Galen, whose fame as a physician overtops that of any of the ancients, started out with certain metaphysical assumptions which forced observation into the most perverse of molds. It seems possible that scepticism was a revolt against that very thing, since it grew up in Alexandria, where the famous medical school of Empirics also took its rise. The Empirics determined to make experience their guide whether it fitted in with systematic reasoning or not. And one would like to see in the sceptical attacks upon philosophy and formal reasoning a justification of their procedure. True as this may have been in the earlier years of Alexandrian scepticism, it was apparently not true as it developed. For Sextus Empiricus, the historian of scepticism and himself a physician, in spite of his name aligned himself with the Methodics, as they were called, and expressly denied that the two doctrines were the same. Yet the Methodics, as he describes them, were what the early Empirics had tried to be,—namely, men free of dogma; so that the name "Empiricus" that has been given to him may not be such a misnomer after all. If the two schools did have the same aim, then it is but another of the many ironies of history that these precursors of modern science should survive as nagging critics or degenerate philosophers.

In Philo the Hebrew religion had been transformed into a philosophical system. It remained for certain of his contemporaries, Greeks for the most part, to transform the standard Greek philosophical systems into a religion. This was done by the invention of sacred writings attributed to Pythagoras and his school which emphasized the religious element in the lives of their supposed authors.

The substance of what these men taught has no place in a history such as this and is, moreover, almost impossible to extract from the mass of allegories, myths, and legends in which it was expressed. Its influence, however, was not in proportion to its clarity; and much that has become so thoroughly ingrained in the European way of thinking that it is second nature to us, is traceable to this school.

Like the old Pythagoreans, this new group—called the Neo-Pythagoreans—practised abstinence from flesh and, in general, lived an ascetic life which they believed reproduced the life of Pythagoras himself. Their morality is perhaps best summed up in the famous "Golden Verses" which Hierocles, who wrote a commentary on them in the fourth century A.D., pointed out gave one the means of acquiring truth and virtue, of becoming pure, of resembling the divinity, and of returning to a primitive state of innocence and enlightenment.

The "Golden Verses" command, first, honor to the gods, the heroes, the terrestrial demons; honor not by sacrifice and empty ritual, explains the commentator, but by modeling one's conduct upon theirs. They next command respect to one's oath, and honor to one's father and mother and nearest relatives. Friends should be chosen, they go on to point out, because of their virtue and one should always yield to their advice. Next one's passions should be conquered,—gluttony, laziness, concupiscence, and anger. One should do nothing of which one would be ashamed even in solitude; self-respect is one of the greatest virtues. One must be just in deed and in word and behave oneself always rationally, bearing in mind that all men must die and that worldly goods disappear as quickly as they are gained. Ill fortune should be borne with equanimity but one must attempt to remedy it, remembering that the greatest evils do not happen to the Sage. One should not be hasty in judging another's errors, but at the same time one should not accept every man's advice. For reason and reflection should always guide one's acts and will prevent the need of repentance. Nothing which one does not understand should be attempted. Bodily health should be preserved, but the body must not be overindulged; one should live in cleanly fashion and without luxury, doing nothing to attract envy, doing ill to none, being never miserly nor stingy. At the end of the day one should examine his deeds, noting one's omissions and one's commissions and chiding oneself for deeds ill done. One should begin nothing without having prayed to God for the power to finish it. Obedience to these commandments entails knowledge of justice, of the uniformity of nature, of the voluntary production of evils by men. The man who follows their prescriptions will after death be an immortal god.

Such precepts were not peculiar to Neo-Pythagoreanism, and had they been all there was to the movement, it would have been even more difficult to disentangle it from its contemporaries than it is. They were accompanied by a mass of number-superstitions and symbolism which are now so familiar to us that we have forgotten their history. The ancient Pythagoreans had, it will be recalled, divided the world into two halves, a good and a bad, the good corresponding to the odd numbers, the bad to the even. They had thought of the number One as somehow both odd and even; and it has, of course, certain picturesque properties which make it seem immutable. Divide it by itself and it is its own quotient; do this to any other number and you get One. Multiply it by itself and you get it again: it is its own square. It was believed to be the source of all the other numbers and, indeed, if it is added to itself a given number of times the sum will be some positive whole number. But since the Pythagoreans believed numbers to be "the first principles of things," the number which creates all the other numbers while always remaining itself is obviously the first principle of first principles and hence is the first principle of the world.

The Neo-Pythagoreans, with another theology in mind, immediately united the number One with God; and from then on God was not only the Form of the Good of Plato but a cardinal number besides. But One is immediately followed by Two, the first even number and hence the source of all evil. The sharp dualism of earlier Pythagoreanism becomes "resolved" when it is seen that Two can be produced out of One by the simple process of duplication. But how did One become duplicated? Certainly not by adding itself to itself, for God could not add Himself to Himself. The Neo-Pythagoreans found another process to achieve the result, a process very much like that suggested in Philo after a Platonic model and carried out in Plotinus,—namely, the process of emanation. The reasoning here is very puerile and I should not reproduce it were it not so influential in subsequent thought. It was discovered by the Pythagoreans that the number Ten had a peculiar property of causing the number series to turn back upon itself and begin over again. Hierocles explains this in his commentary on the "Golden Verses" by pointing out that when One reaches Ten, One goes on to Ten + One (11), Ten + Two (12), and so on to Twenty which is twice Ten. The interval of ten units goes on repeating itself to infinity. In other words, our number system is decimal.

But it was seen that Ten is One + Two + Three + Four and it will be recalled that the numbers of the Pythagoreans were shapes. Ten was therefore

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This shape was called the "tetractys" and was so sacred that the Pythagoreans—and the Neo-Pythagoreans as well—used to swear by it. The full beauty of this figure can now be appreciated. Four is an arithmetical mean between One and Seven, for it is One + Three and Seven — Three. The powers of One are already known; but Seven has almost equal excellence (virtue), for it is a "Virgin born without a mother."[1] It is motherless since it is "conceived" by no number between One and Ten; *i.e.,* it is the product of no two numbers. It is a virgin because it is a factor of no number between One and Ten. Obviously it is a very holy number. Four, being a mean between it and One is equally important, and Hierocles points out some of its virtues. It is the number of solids; there are four faculties of judging things; there are four elements, four seasons, four ages; one can name nothing which does not depend upon the tetractys as upon its root. But greatest of all, the pyramidal form of the tetractys is a picture of the process by which Nature emanates from God or Unity.

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[1] This fancy gets into Christianity through the famous *Marriage of Philology and Mercury* by Martianus Capella (early fifth century).

This number symbolism captured the imagination of the world. The rationalism of Aristotle and his school had been attacked successfully by the sceptics and allegory had taken its place. Neo-Pythagoreanism had just that combination of mystery and ratiocination necessary to succeed in propagating a cult. Its terms were absorbed by the whole world, except perhaps by the soberer Stoics and Epicureans. God became the One; there were rumors of Trinities, and of the strange relation between the members of them. The Middle Ages showed a veritable passion for such matters. That there should be four elements, four gospels, four evangelists, four points to the compass, four branches to the Cross, seemed no coincidence to men of that time, but the revelation of some deep and occult power of the number Four. The same sort of thing was true of Three and Seven. If one reads Huysmans's *La Cathédrale,* he will find how this Neo-Pythagoreanism was expressed in architecture; an account exaggerated, it is true, but nevertheless with enough truth to prove the point.[1]

It was said earlier in this book that Plato had no doubt formulated his theory of Forms after the Pythagorean theory of numbers. The Neo-Pythagoreans now take the doctrine of Forms and retranslate them into numbers; only for them the Forms become the ideas in the mind of God in accordance with which He made particular things. Numbers are patterns and thoughts at the same time. God of course is not now the One but is a lower aspect of the One, the creative member of the Neo-Pythagorean Trinity—Plato's Demiurge. Being God's thoughts—an idea, by the way, which we find also in St. Augustine and other Christian writers—their almost magical properties need cause no great surprise. It is true that Neo-Pythagoreanism in Christian writers became naturally Christianized. Thus I do not know of any pagan writer who believed with St. Augustine that Three is the number of the Soul—because it has three faculties like the three persons of the Trinity—and Four of the Body—because of the four elements. But Christian rhapsodies over Seven are even more ecstatic than Hierocles's. What wonder, then, that Pythagoras is immortalized in stone in the cathedral of Chartres? His influence upon the thought of the time was as great as that of Aristotle.

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[1] A more scholarly and no less readable account is in E. Mâle's *L'art religieux du XIIIe siècle,* p. 23.

Yet there is here, too, a certain irony about the survival of Neo-Pythagoreanism in Christianity. The most important member of the school is the half-mythical Apollonius of Tyana, born about the same time as Jesus. Apollonius was a man apparently who wandered far and wide, going even to India, gathering disciples as he went and performing miracles, such as casting out devils and raising the dead. He was persecuted under Domitian and imprisoned by him and, in general, led the life of the traditional popular saint. His great work was the reforming of religion, insisting upon the abandoning of bloody sacrifices and, all in all, trying to purge it of its absurdities and superstitions. His vogue was extraordinary and he was, as I say, one of the main instruments for the Pythagoreanizing of thought, with the effect upon Christianity that we have seen. Yet in 305 Hierocles wrote an attack upon Christianity in which he tried to prove that the miracles of Apollonius were quite as impressive as those of Jesus; and some scholars have seen in Philostratus's life of him a pagan New Testament. Eusebius (third to fourth centuries A.D.), the famous bishop of Cæsarea, wrote a reply to Hierocles which acknowledged the supremacy of Apollonius among philosophers if not among saints, and this point of view was adopted by many Christian writers. St. John Chrysostom (latter half of the fourth century), however, denounced his reputation, and soon he became submerged into the level of magicians whom the Middle Ages admired but dared not admit admiring. His rivalry with Jesus was a scandal and remained in the background of men's thoughts until Charles Blount, an English free-thinker, published in the seventeenth century an incomplete translation of Philostratus. A controversy over Apollonius flared up which has kept his name even today before the public as a sort of pagan Messiah.

While pagan philosophers were undermining the Olympian religion and sceptics were undermining philosophy, the East gained a greater and greater ascendancy in the West. The important men of Rome, whose position in Europe was supreme by the time of Christ, were mostly Stoics or Epicureans. They were not people to resist religious innovation and, as a matter of fact, were relatively undisturbed by social changes. Epicureanism found its Roman expositor in Lucretius (95–51 B.C.); and Stoicism its evangelists in Seneca (*c.* 4 B.C.–65 A.D.), the Spanish adviser to Nero, Epictetus (*c.* 50–130 A.D.), the slave, and Marcus Aurelius (121–180 A.D.), the Roman emperor. These men, while Stoics, differed from one another in certain beliefs. As Mr. Arnold, the historian of *Roman Stoicism,* points out, Seneca utilizes Epicurean or Cynic dogmas when they are apropos and feels a certain contempt for Stoic logic. He was essentially a moralist, not a theorist. Similar remarks hold good of Epictetus and Marcus Aurelius. They were not metaphysicians but moralists, using Stoic theology when it suited their purposes but putting morality above all. Their writings were reflections, musings, if one will, and form no systematic account of things. But these three, probably more than any other group of Stoics, kept the cool Stoic flame burning.

The flame was too cool, however, for the populace, and as their interest in the old religion died they began to search for new gods. They gradually adopted all the gods who could be made to live together in peace. There was as great eclecticism in religion as in philosophy, and it is said that the Emperor Alexander Severus (205–235 A.D.) set up as gods in his private shrine statues of Alexander the Great, Orpheus, Apollonius of Tyana, Abraham, and Christ. The one religion which they could not absorb in this way was Christianity, in spite of Severus's example, for to be a Christian was to renounce the worship of the emperor. Christianity, however, as it grew stronger, absorbed most of the pagan beliefs and much of pagan ritual; but in these early years its strength—like that of Judaism—was its exclusiveness.

It should not be forgotten that Christianity is not a philosophy but a religion. But it needed a philosophy just as Judaism did, to give it an air of rationality. There were a number of beliefs which, whether they were held in the earliest years or not, gradually took on an extreme importance and demanded rational explanation. One could say, as Tertullian (165–220 A.D.) did, that he believed these things because of their absurdity, for, one might argue, anyone can believe that which is rational; only the really devout man can sacrifice reason and believe in the incredible. But Tertullian's way was not easy and not approved and it was felt to be wiser to explain Christianity as far as one could.

The doctrines which particularly needed rationalizing were inherited guilt, vicarious atonement, the Trinity, later transubstantiation, the creation of the world and its destiny, sin and evil and their relation to a beneficent God, the future life of man. For many centuries thereafter such problems occupied the mind of Europe almost exclusively, for they were practical problems. We often forget that the Middle Ages were intensely interested in these questions, not through any detachment from the world but because they really believed this world down here below to be of no importance. One cannot deny this nor that they thought that they would be literally transported after death into some other world in which their fate would be settled for all eternity. Nowadays in the twentieth century the Hebraic tradition has itself reached an Alexandrian period; we allegorize heaven and hell and sin and God and all the rest. These men did not, and what is symbol to us was fact for them; what is fact to us, for them was symbol.

Like Philo, they found their greatest help in Plato and in the Stoics. Perhaps their greatest writer was Origen (185–254), a pupil, as was Plotinus (204–269), of the Alexandrian teacher, Ammonius Saccas. These men lived, as their dates show, two or three generations after Philo, but the substance of their philosophy is like his. Exactly what was the historical connection between them and Philo we cannot determine. Plotinus went the way of paganism and became the founder of Neo-Platonism; Origen, the way of Christianity and became the founder of Platonic Christian theology.

Plotinus, after studying in Alexandria, came to Rome in the first third of the third century, where he enjoyed a great vogue, lecturing before the Emperor Gallienus and his wife and enjoying the confidence of many of the more influential men in Roman society. One feels that the circle to which he lectured was making the last stand against Christianity. The common people and the women were succumbing, but the ruling classes strove for a set of beliefs which would have all the consolation and beauty of Christianity but which would still be pagan. Some of them turned to Mithraism, which is now believed to have been Christianity's most serious rival. But no religion which laid so much emphasis upon ritual could ever conquer the intellectual world of Rome. Mithraism was the Christianity of the soldier; Neo-Platonism became that of the intelligentsia.[1]

At the time when Plotinus preached before Gallienus, nine different claimants to the throne were struggling for supremacy, and the empire was cracking in many pieces. There was probably as great political disorder current as there had ever been before or ever would be again. Yet Plotinus showed his auditors a world which was so organized that it was controlled by unity, a unity which was goodness, beauty, and truth.

Plotinus inherited from his Alexandrian forbears a view which could be traced back to the Platonic distinction between the world of Forms and the world of particulars.

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[1] It is interesting to note the influence of women in propagating Christianity. How many stories have we like that of St. Monica, in which a Christian mother rescues her son for the true faith against the wiles of a pagan father. It is small wonder that the Virgin Mother became so popular a figure of Christian worship.

The contrasting character of these two worlds had been emphasized rather than alleviated by the entrance into Europe of orientalism. In Philo it was fairly clear that the world of Forms was heaven, a world into which death will give us entrance. In Plotinus the idea becomes more precise, and in the Christian philosophers it is fairly certain that heaven and the world of Forms are one. That provides as great a gap between the two worlds as there ever was in Plato.

In Plotinus the world of Forms is active and eternal, is unlimited in perfection, is spiritual, is the world of the One, of the good, of the beautiful. It is the intelligible world. It has, as in Plato, all the Eleatic qualities. The world of particulars is, on the contrary, Heraclitean. It is passive, temporal, limited in its perfection, material, multiple. It is the world of evil and ugliness. It is the sensible world. But Plotinus has before him a vision of the world in which the opposition is not between two discrete entities, but of a Pythagorean world in which there is a continuous series of beings from the One, which now definitely takes the place of Plato's form of the Good, to the infinitely Many. Between the two extremes there are various stages or levels of being, of various degrees of goodness, beauty, reality, and so on. The picture is constructed after the Pythagorean original fused with the Platonic-Aristotelian conception of classes which are inclusive of less general classes. Thus the One includes all other numbers in Pythagoreanism, because it generates them; at the same time, it is the most universal concept because, as Aristotle had shown, everything that is is one thing. The peculiar beauty of the One therefore is that it has to Plotinus's mind both the power of producing all else while staying one and also the property of being the most universal concept. There are species of unity, but unity is a species of nothing higher. It is equivalent to "being."

The universe is hierarchically arranged; and Plotinus now proceeds to show what Philo omitted,—namely, the reason for the hierarchy. It is an axiom of his that all things produce something, which is the reverse of the Platonic-Aristotelian formula that all things have a purpose. Fire produces heat, snow produces cold; nothing is without its product. But the product is always lower in the scale of values than the producer; the work of art is less noble than the artist. Just what "lower" means here, is difficult to define and must be accepted as an indefinable in the system. (A Greek knew what it meant apparently without further discussion.) The One, then, is at the top of this scale and the fullness of its being overflows into the lower reaches, producing first the Intelligence, in which are implicit the Forms, and from the Intelligence the Soul of the World, in which are implicit all souls. From there on the emanations proceed downwards until they reach Matter, or that which is incapable of production, being utterly passive. In this universe there are no gaps; the chain of being has no missing links.

This picture of an ever-productive God—for the One is God, at least in later thought—is enlarged from Plato's Pythagorean dialogue, the *Timæus,* one of the most influential writings of pagan times. Similar to Philo's account of the relation between God and the world, it is more precise in regard to the manner in which the world is produced; for, according to Plotinus, all things, as we have just said, are productive except Matter, and the cosmos is an everflowing fountain. At the same time, lest the activity of God and all lower things should run down and the world finally be nothing but a great mass of inert matter, Plotinus reminds himself that Matter in his other Greek master, Aristotle, was always correlative to Form—and always attracted to a form. Thus as all things produce, they also strive toward higher things, tending to return to the source from which they emanated. Plotinus's picture of this is the Intelligence which looks toward the One as it also looks toward the Souls. Each level of being strives toward perfection, just as it strives to produce; in the classical phrase, there is a way up as well as a way down.

In man's case—which, after all, is of greatest interest to Plotinus—he feels the tug in both directions. For his soul is situated midway between Matter—his body—and the Forms. His soul, however, is of the nature of the Forms and hence—by the attraction of like to like—is almost irresistibly moved by the sight of pure Forms. This attraction is known to us as love, and the vision of Forms is beauty—as it was in the speech of Socrates in the *Symposium* of Plato. The beautiful is the form of things as Form, which means for Plotinus the essential nature of things. Love then pulls a man upward, urging his soul to unite with what it sees until finally it is brought into the presence of the One. There the union of Soul and Form is completed in the ecstatic vision so often described by mystics and which Philo, first perhaps of the Neo-Platonists, had enunciated. Knowledge of the One is not rational, for reason describes and, describing, uses a language which in affirming a given property of its objects denies all contradictory properties. But in describing the One contradictories are not only appropriate but necessary. For the One is all-inclusive—like Parmenides's Being—and therefore any adjective applied to it will be misleading.

The question now arises, as it did in Philo, why the soul should ever be put into a body. Plotinus, like all the developers of the Platonic tradition, believed that its presence on earth was merely temporary, having come here "from God who is its home." Before birth the souls dwell in the world of Forms, circling about the mother soul—who is the Soul of the World—like dancers about the chorus master. Why should they ever descend here below? Plotinus's answer is that they, too, must obey the universal law of production and that what they produce is the government of a body. Living in the world of Forms they see a body about to be born and of their own accord—this is very Greek—decide that the moment has come to obey the law. They descend then voluntarily and enter into a body, knowing that they may be worsted in the struggle that will inevitably ensue. For should the body conquer, should they give way to the life of sensation, they are doomed to be reincarnated until they win out and to live in exile from the world of Forms. Thus the fall of man for Plotinus is an individual affair. It is not the result of the sin of disobedience but, on the contrary, is the result of obeying the most intimate law of nature. As Plotinus seems to incline to the doctrine that there are separate forms for each individual man, the fall is not a fall of the race but of individuals, and similarly rehabilitation is of the individual and not of the race. One of the most important changes that will be introduced by the Christians is in this doctrine.

The doctrine of Plotinus became crystallized into the tenets of a school in the writings of his famous disciple and biographer, Porphyry, an Asiatic from Tyre (*c.*232–*c.*304). He was particularly influential in reintroducing to Europe the logical writings of Aristotle, which were passed on to the Latin-speaking Europeans by Boethius in the fifth century. In these writings (*Introduction to the Categories* *of Aristotle*) he made clear the interrelations of genera and species, showing in the famous Tree of Porphyry, whose importance will appear later on in this book, that one could work down from the all-inclusive class, Being, by the process of dichotomy to the least inclusive—individuals. This became the model for all hierarchies and a scheme for unifying all apparently disparate things. The effect of this simple device is all the more interesting when one remembers that its author wrote a work in fifteen books, *Against the Christians,* one of the aims of which was to disprove the divinity of Christ. (It was burned by order of the Emperor Theodosius II in 435, so that we do not know its details.)

It apparently stamped the school as preëminently anti-Christian, for the pupil of Porphyry, Jamblichus, an early fourth-century figure, was the philosopher to whose writings Julian the Apostate turned in his efforts to restore the prestige of paganism. Jamblichus was a great practitioner of Neo-Pythagorean number-juggling and achieved an extraordinary reputation as a demi-god. He was very catholic in his polytheism, including all the gods except those of Christianity. The pretended letters of Julian to him are excellent indications of how he was regarded by the people of his time. Like Porphyry, Jamblichus developed an hierarchical order for the cosmos with a supra-rational One above the One of Plotinus and with the most intimate details of the various stages in the emanations from the One, a work which seems to have been carried out in even greater detail by his disciple, Theodorus of Asine. We cannot go into the development of this school and must content ourselves with emphasizing the fact of its extreme activity. It was the most important and widespread of the late pagan philosophies and the most immediately influential in determining the course of Christian theology. It was fortunate in having in the fifth century a great commentator and systematizer in Proclus, who lived in Athens, many of whose writings have survived and which have furnished his Christian enemies with aids to their own beliefs.

The Neo-Platonists returned then to Athens where their philosophy had taken its rise eight centuries before. How long they would have continued to teach is a matter of conjecture. In the sixth century (529) the Emperor Justinian ordered their schools closed and forbade the teaching of pagan ideas. But Greek thought never died out and what was lost to the West was carried on vigorously in the East. In Byzantium (a city whose intellectual history has yet to be written), in Armenia, in Persia, and in particular in Syria, translations were made of Aristotle and the Neo-Platonists. We know so little of this movement of Greek thought that we usually omit it from histories of philosophy. In a sketch of this kind it unfortunately has no place; but were a complete history of European philosophy to be written, one would in the next chapter move to the Near East.

Chapter IV

CATHOLIC EUROPE

If occidental civilization were not Christian, it is likely that Christianity as a philosophy—not as a religion—would be called a branch of Neo-Platonism. For throughout its early years that mixture of Pythagorean, Platonic, Aristotelian, and Stoic elements which characterizes the school of Plotinus was equally characteristic of Christianity. Its subject matter and its problems were, to be sure, frequently different. It had to answer questions of dogma which could not have occurred to a pagan. But such differences were not on the whole important in developing a new philosophic technique.

The earlier Christian philosophers, Clement of Alexandria, Origen, a classmate of Plotinus, as we have said, in the schoolroom of Ammonius Saccas, recognized their debt to the pagans. They spoke of Plato with the respect with which they spoke of the Bible. As early as the time of Justin Martyr (*c.*150 A.D.), it was suggested that God—the Divine Logos—had revealed His truth to the great philosophers of Greece as He had to Moses and the prophets. So Athenagoras of Athens, a younger contemporary of Justin's, taught that they were at least stimulated by the Logos, if not inspired, to teach the unity of God. These men, it is true, were opposed by others like Hermias and Tertullian, who hated all philosophy in their zeal for self-abasement. But the philosophizing Christians were always aware of their debt to the pagans. If one were to substitute for the word "God" and similar words in Clement and Origen words of a less well-known connotation, it would be difficult to distinguish between their doctrines and those of many another Neo-Platonist.

Already in Clement we find the Philonic doctrine that God is above the reason because of His indescribability. But Clement's writings were not systematic and the hints of Neo-Platonism were not fully developed. Origen is usually credited by historians with being the earliest Christian philosopher. He begins his exposition with that which is highest in the Christian universe, God, and ends with terrestrial questions. God, as in Neo-Platonism, is the One, immaterial and, of course, Eleatic. But He is not infinite, as He seems to be in Neo-Platonic writings, since He limits Himself by His goodness and His wisdom. That is, He is rational and though He Himself is presumably the creator of goodness and truth, once He has created them He lives up to their dictates and thus is like an absolute monarch who voluntarily grants his subjects a constitution. This question of the limits of God's power, we may say in parenthesis, will recur as late as the thirteenth century. The rationalistic philosophers will tend to follow Origen's lead; the anti-rationalists the lead of Tertullian, who would make of God an utterly unknowable being, acting in accordance with motives beyond our ken.

Although Origen's God is a creator, He is also described as an emanator, for the Son (the Logos, Plotinus's Intelligence) flows out of Him, in the familiar metaphor, as light flows from a candle, without splitting Him into parts. Origen is so Greek that he therefore makes the Son inferior to God, having been produced from God—the product is always lower than the producer. From the Son seems to flow the Holy Ghost, as the Neo-Platonic Soul of the World flowed from the Intelligence. It mediates between us and the first two members of the Trinity—centuries later Abélard will be accused of preaching that the Holy Ghost is the Soul of the World, when the anti-rationalists have the upper hand in European thought. After the Trinity comes the world of spirits (Plotinus's souls) which are, of course, our souls. Origen accepted the Neo-Platonic theory of preëxistence (which was condemned by the Church in 543) and added a Christian optimistic touch which had a long future history,—to wit, that at the end of time all evil would disappear and all souls be saved. This progressive betterment of things, including, by the way, even the transcending of the New Testament by an "eternal gospel," is an early Christian foreshadowing of what later became the theory of progress.

The theories of Origen never were accepted by the Church and though he is accredited as an "ecclesiastical writer," he is not a "church father." For there were too many non-Christian ideas in his teachings for them to be absorbed as a whole. It remained for Saint Augustine (354–430), born a hundred years after Origen's death, to use Neo-Platonism in just the right degree.

In Saint Augustine the relation between this world and the world of forms is not so much a metaphysical as a moral question. He is satisfied with the Biblical account of creation, though he is Neo-Pythagorean in his notion that the ideas in the mind of God after which He made the world are numbers. What most concerns him is the relation of mankind to God. Now Plotinus had inclined—though not his disciples—to the view that men have each an individual form in the world of forms and that the fall and redemption are repeated in every man's history. But

Saint Augustine takes the attitude that on the contrary there is one form for all mankind which is a Platonic *eidos*. This seems to be necessitated by the Christian dogmas of inherited guilt and vicarious atonement. For how could all the descendants of Adam be held responsible for Adam's sin unless they were Adam? And how could they expiate it in the person of Christ unless they were Christ? But for all men to be Adam was for Adam to be the form of mankind, the form incorporate; not merely a man, but Humanity. Saint Augustine apparently thinks that this is the explanation of the matter and that the penalty of the fall was the splitting up of the form into particulars. So in Christ—the second Adam—humanity is again incarnate in one individual and can thus expiate the sins of all other individuals. Such phrases as "sinning in Adam's fall" are quite literal for Saint Augustine. We sinned in his fall for we were in him.

The history of mankind is the story of Adam's descendants, their divagations from the ways of God and their fidelity to them. Every event here on earth becomes a reflection of some attitude on God's part toward its participants. Nations are punished for their immorality and rewarded for their morality. But so convinced is Saint Augustine of man's inability not to sin, that there are more punishments than rewards recorded by him.

There is in Saint Augustine's vision of universal history what became in later Christian thought the theocratic empire, international in its scope, controlling all peoples regardless of their creeds. Though mankind is for him Mediterranean man, by implication his point of view takes in all peoples. He is the last word in that anti-nationalism which crept into European thought through Stoicism. He believes, and his Christian disciples will continue and fortify the belief, that whether one be Greek or Roman, Gaul or Dacian, one is subject to the same law, the law of an invisible being which will be enforced regardless of His subject's protests. That this being was after all the tribal deity of a small Asiatic people does not occur to him; that His edicts were fashioned to fit a definite and local condition is never suspected by him. Neo-Platonism had taught him to see the world as a moral and not a material pattern. The morals he recognized were those of the Decalogue and primitive Christianity. They were for him the purpose of the world's existence, the revelation of its most intimate meaning. Without them history would have no sense and people like Saint Augustine never question the proposition that it must have sense. Hence he constructs his City of God, a city inhabited by saints and martyrs, a real city, by which he means an ideal city—for citizenship in which the good life prepares us.

There were a number of details about this new Christian thought which seem to be unperceived by most historians, though the remaining pagans did not pass them over in silence. One was the incredible cynicism it taught. Christians today are likely to be the upholders of things as they are and to feel that if there are evils in civilization—war, waste of human life in industry, cruelty to the handicapped—they must be borne with equanimity as the perhaps incomprehensible but nevertheless just inflictions of a God whose ways are beyond understanding. Yet although they do not protest against evil—except in so far as they consider pleasure evil—they do not feel as their forefathers did that life itself is a punishment. The primitive Christian not only saw the evils of life but he was so sure that life itself was bad that he explained the very existence of mankind on earth as the result of sin. After all, there was no Hebraic tradition, so far as I know, which warranted this attitude. There was nothing in the Old Testament which led men to think that eating of the fruit of the tree of knowledge was the sexual experience, unless it was the aftermath of shame. Was there not a passage of equal force which suggested that men increase and multiply, and was not God continually promising to His chosen all manner of terrestrial goods? The early Christian in his hatred of life explained these promises allegorically and found no good in any of our earthly desires. Before he had finished, he had offered to his god the bloodless sacrifice of his family, his wealth, his reason, his appetites, but above all of his pride. And he tried to convince the world that the only value capable of attainment was death. What Cynic of Greek times had gone so far?

Behind this sneer at all earthly pretentions lay a philosophy which was even more ironical to the pagan mind. For if we all sinned in Adam, then we were born incapable of not sinning. Yet it is customary in civilized societies not to hold a man responsible for what he cannot help doing. The doctrine of our participation in Adam's substance leads Saint Augustine to the conclusion that we were originally created free to sin or not to sin, but that since the fall we always sin. But how, then, are we to hope for an entrance into heaven? Are we all doomed to eternal torture as punishment for our sins in Adam? Here enters an element into western thought which would have been not merely inexplicable to a Greek but repugnant, and which Christian civilization has accepted in its entirety, though not always with good humor. We are doomed to eternal torture, but by the unpredictable grace of God some of us are elected to sainthood. There is no telling who these are; there is no real reason why some are elected rather than others. All is at the mercy of a God whose acts are open to no scrutiny, are unsubmitted to the control of reason, and operate solely by what in human beings would be called caprice. Sovereignty in Greek philosophy was freedom to follow the dictates of the reason. Sovereignty in this new philosophy—found only in one person, God—was freedom to do as one pleased. This is the tradition of the Latin as opposed to the Greek fathers and it has never dropped out of western thought, until nowadays a nation which is requested to join other nations in observing certain rules of international morality, refuses on the ground that to do so would be to abrogate her sovereignty. So the Supreme Court once declared that a child labor law would violate a child's right of free contract. The oriental despot has become the model not only of the ruler of the universe but of the people in it.

The doctrines of Saint Augustine could obviously not be verified in the usual scientific manner of testing their correspondence with fact. What facts were there which would reveal the truth of predestination, of man's participation in Adam's fall and in Christ's atonement? The basis for such ideas was to be found in the Bible and the Bible had to be interpreted allegorically. What was demanded was a good interpreter, and the goodness of an interpreter was to be determined practically. By Saint Augustine's time the outlines of Christian dogma were established and heresy was separated from orthodoxy. Saint Augustine's mission was to fortify orthodoxy and he did it by the forceful enunciation of doctrines which would make for the solidarity of the Church. No one doubted their truth; few knew, however, how to prove them. His emphasis upon human unity, upon the capriciousness of grace, upon the need of faith, all doctrines which were essentially mysteries but which under his powerful eloquence seemed rational and almost uncontrovertible, all bound true believers together more tightly than the works of any of his predecessors.

But if he bequeathed a great set of dogmas to his descendants, he also bequeathed a set of problems, among which the following stood out:

(1) What exactly were the forms, or, as it was the Latin custom to call them, the "universals"?

(2) Was man free or determined?

(3) What was the basis of knowledge, rational or non-rational?

In Saint Augustine the new or Christian civilization was becoming stabilized. As its emerging character is to last for almost a thousand years, it is well to indicate briefly what it was becoming.

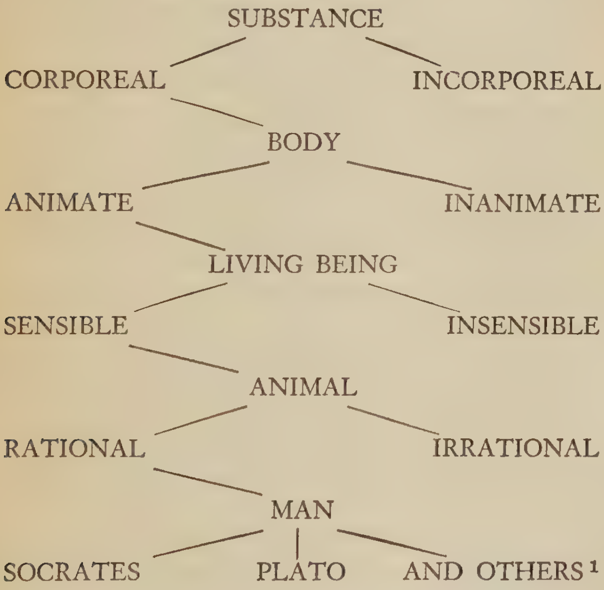
(1) As civilization became Christian, it became essentially theological. Bit by bit all human interests will be focused on a theological objective and the non-theological interests of mankind will be relegated to a subordinate condition. Thus the physical world will be but a symbol of a divine will, and physics and astronomy will be largely allegory. Politics, art, science, will be poured into the theological mold and that which does not plainly help man to build the City of God will be discouraged, if not abandoned. Saint Augustine's way of dealing with history will become the way of dealing with all fact.

In pagan society there was no organized religion. There were cults of many gods, some of which conflicted with one another, some of which were harmonious. As is well known, the Romans were especially eclectic in theological matters, worshiping Jewish, Egyptian, Christian, and Persian deities alongside their own. There was also in paganism the notion that natural events were symbolical of divine wills, as is seen in the practice of divination. But since there was no supreme will, objective science had been possible.

(2) The theological or religious interests of mankind were in part intrusted to the government. Thus the propagation of the faith, war upon heresy, punishment of unbelievers, all were in part in political hands. This program was, of course, begun when the Edict of Milan, giving Christianity the position of a favored religion, was published by Constantine in 313. In the Theodosian Code (379–395) laws were incorporated against Jewish and other forms of non-Christian worship, and the Christians began to protect their religion in the same way that the French Revolutionists tried in vain to protect theirs some centuries later. But paganism, before Christianity became a menace to its security, did not make religion a governmental function except in the vaguest way. The mob in Athens could apparently have a man tried on the grounds of impiety, but so long as one worshiped some gods, it made very little difference which. This freedom of worship—which was characterized by a nineteenth-century pope as "the stinking fount of indifferentism"—was of course what made it possible for the Christian and other Orientals to gain a foothold in Rome. Persecution of them did not begin until some time later when they refused to acknowledge the emperor's supreme authority. How could they acknowledge it? And how could the emperor fail to persecute them?

(3) The Christian world becomes hierarchical, largely because it is theological. It inherits hierarchies from the Neo-Platonists, whose philosophies are in turn a combination of Platonism and Neo-Pythagoreanism. The hierarchy here is one of emanation and of the numbers. It inherits it also from the Aristotelian notion of class-interrelations which is

preserved in the logic of Porphyry, the pupil of Plotinus, translated into Latin by Boethius, a figure who will be mentioned below. The hierarchical order means not merely an arrangement of things in order of power but also in order of value, so that "most powerful," "most inclusive," "most unified," "highest," and "best" become synonyms, and "least powerful" and so on become synonymous with "worst." Heaven is arranged like earth, and both are arranged like the Tree of Porphyry, a scheme of concepts in which the most inclusive is put at the top and the least inclusive at the bottom. To illustrate:



This simple arrangement of concepts had an extraordinary influence on the organization of mediæval thought, serving as a pattern for the order of heaven and earth and all that is within them. It is scarcely an exaggeration to say that it is more responsible than any other one idea for the surprising unity and discipline of mediæval civilization.

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[1] I take this from W. S. Jevons's *Elementary Lessons in Logic,* new ed., N. Y., 1913. It can be found in almost all of the standard textbooks in logic.

In the ancient world, life was not organized. The weakness of Greece was that governments were heterogeneous and states selfishly non-coöperative, lacking any sense of international solidarity. Human beings were individual atoms, each working out his own salvation, as in Plotinus. Yet the pagans knew, as Plato for instance knew, that all men were not equal. The Christians, who preached that all men were equal, gave to the world a scheme of life in which only men on the same hierarchical level had equality. It was but one of the many paradoxes which history has to show us between thought and action.

(4) Mediæval culture became a civilization based upon authority. Certain writings were held to have discovered ultimate truth, and consequently knowledge was but an explication of that truth. This held good not only of the Christians but of the Jews and Mohammedans as well. The Bible, the writings of the Fathers, the Koran, Aristotle, the *Timæus* of Plato, all were authority at one time or another. In the ancient world there were no authority and no sacred writings. Therefore there was no heresy. Homer came closest to being an authority in Greece, but the treatment he received at the hands of the philosophers from Xenophanes on was not such as to encourage the belief that he was infallible. In Christian Europe the problem of intelligence came to be the making of learning square with inherited teaching. This meant that the philosopher was essentially a systematizer and rationalizer, an expositor. He was not out to discover new truths but to expound old ones.

As one looks back to these post-pagan years—from the fifth century to the ninth—one discovers a small group of men in whose writings lay the education of the western world.

There was, first of all, Martianus Capella, a Neo-Platonist, an early fifth-century figure, whose *Marriage of Philology and Mercury* became not only the source of much European symbolism but also of its learning. Philology is not the study of language but the Logos-lover and Mercury was the Logos, the second member of the Trinity. The work, written in alternate prose and verse like the *Satyricon* of Petronius, the *Consolation of Philosophy* of Boethius, and, for that matter, *Aucassin and Nicolette,* is not unlike a masque, except that it was never intended for the theater. Mercury presents his bride with seven handmaids who are the Seven Arts, the Trivium: Grammar, Rhetoric, Logic; the Quadrivium: Arithmetic, Geometry, Astronomy, Music. Each is described symbolically and each in turn discusses herself. These discussions became textbooks and though they were far from scientific accounts of the subjects in hand, being, on the contrary, Neo-Platonic allegorical versions of most things, it was to them that the Middle Ages turned for information. Their allegorical character was perfect for the needs of the time.

Martianus Capella was seconded by Boethius. This extremely interesting Latin was perhaps more of an inspiration to Europeans of the next thousand years than any other one pagan of his race, unless it be Virgil. He wrote on three sets of topics: music, logic, and morals. His musical treatises were of the Pythagorizing sort and do not concern us here. In logic he translated Porphyry's *Introduction to the Categories of Aristotle* which helped the West retain its one intellectual instrument and proposed, as we shall see, one of the great philosophical problems of the time. In morals he wrote his *Consolation of Philosophy,* which was not only read and reread in the original Latin, but was read in translation in most of the various languages of Europe.

The *Consolation of Philosophy* has the notion behind it that was common to Stoicism, that the purpose of philosophy was to produce a state of equanimity in man sufficient to make him bear his troubles courageously. Boethius is supposed to have written it in prison, convicted of treason against Theodoric. Its lesson is that God alone can grant true happiness—Stoic resignation to a Law become personal—and that evil must be illusory. The treatise closes with a long discussion which tries to reconcile human free will with God's foresight, a question which will always trouble Christian writers. Man must be free to act or not to act if he is to be morally responsible, for no one is responsible for what he does under constraint. But if God foresees the future, the future must be somehow determined at all times; and whatever happens cannot happen otherwise than it does. How, then, can man be free?

The answer of Boethius is in the form of a distinction. To God the future does not exist at all; to Him past, present, and future are all present; His "time-span," as the American philosopher Royce put it, is infinite; all times are "now" to Him. But whatever is happening now is necessary and cannot be otherwise than it is. You who are reading these words cannot be not reading them. Such a "chronosynoptic" point of view is not human, however. To us things are in time; there is an unrecoverable past and an unforeseeable future. To us the future is contingent upon many things and from our point of view we are free. The very things which are contingent to us are necessary to God. Thus philosophy consoles unhappy mortals. It is questionable how consoling this would be to one of our generation.

The third of these transitional figures is the Neo-Platonistic pseudo-Dionysius the Areopagite. Dionysius was supposed to be the Athenian converted by Saint Paul on the Areopagus, the second bishop of Athens and the first of Paris, who, martyred on Montmartre, carried his head in his hands to the present spot of the Cathedral of Saint Denis, just outside Paris. Unfortunately for the legend, his writings seem to have been composed about two hundred and fifty years after his death, which may be simply another of his many miracles. They are not long, these books of Dionysius, treating of the choirs of angels and ecclesiastics, of the names by which it is appropriate to address God, but they are extremely important. For they fix in Christian form the Neo-Platonic notion of a hierarchical universe and help habituate the "mediæval mind" to the hierarchical arrangement of things. Most of our notions of the different kinds of angels come from Dionysius. He classified them in groups of three with the Trinity at the top, just as Jamblichus and Theodorus of Asine classified the divine emanations. The Church was arranged just like heaven, in a hierarchy of triads, from Christ to the catechumens; and before Catholic Europe will have begun to disintegrate, the body politic will be similarly arranged in the feudal system.

We must not overlook in this list Cassiodorus (sixth century), a Roman statesman who spent the latter part of his life in a monastery founded by himself. He is one of the initiators of learned monasticism. His most influential work was the *Institutes of Sacred and Profane Letters,* a guide to Scripture. The second part of this book was a treatise on the seven arts. This in itself was but a reduplication of Martianus Capella; but Cassiodorus pointed out that the seven arts should be turned to the service of religion and thus, while encouraging learning, he subordinated it to dogma. (The difference between this point of view and that of Epicurus was not great, for Epicurus subordinated learning to peace of mind.) The *Institutes* of Cassiodorus were seconded in the *Etymologies* of Isidore of Seville (late sixth century), which is the forerunner of the mediæval encyclopædias, of which the *Mirrors* of Vincent of Beauvais (thirteenth century) are the fullest development.

Finally we must mention Gregory the Great (*c.*540–604) whose contribution to philosophy was not so striking as his influence in shaping the mind of Christianity. Besides his revision of church music and ritual, he was responsible for spreading the works of Saint Augustine and giving them their predominant position in Christian literature. He was himself Augustinian in the severity of his life, doing penance for the race which sinned in Adam. In him the subordination of secular to sacred knowledge, which had been prominent in Cassiodorus and was in the tradition of the Latin fathers, became something like contempt for all secular learning. Should he submit the word of God to the rules of grammar? Grammar, logic, such studies were vain and trivial. Biblical wisdom was alone important. In so far as the secular aided in understanding the sacred, it was permissible. But as a study for its own sake, it was worthless.

Aristotle has now been dead some nine centuries. By Gregory's time the world had literally lost its reality in the minds of Christian philosophers. Hence such epitomes as Capella's or Cassiodorus's did well enough. Nature was so trivial, so unreal that physics—in the Greek sense of the word—was not even studied. Miracles, magic of all sorts, were possible, for there were no laws of nature to speak of. Allegory took the place of science because one of the tasks of the man of learning was to see in this world not a system of objective facts, but an obscure revelation of God's will. All of these men whom I have mentioned, and many more besides between the fifth and the ninth centuries, felt thus. They set the tone of early Catholic and European thought, and if one would understand it, one must know them. These times and later are usually called "the dark ages" and one would think that mankind had fallen into a kind of unprecedented ignorance. As a matter of fact, men were ignorant certainly of many things that we now know, but they were learned in many things of which we are ignorant. They substituted religion for science, whereas we have substituted science for religion. That ours is the better course may be true, but that it is true is not undebatable. For who can overlook the recrudescence in recent years in America, not merely of sixth-century ignorance but of an obscurantism which no previous century has ever surpassed and few have equalled?

However dark be these particular centuries, there appeared in the ninth a man whose learning was anything but characteristic of ignorance—John Scotus Erigena. He was apparently an Irishman called to France by Charles the Bald about 850 to take charge of the court school, following the custom established by his great grandfather, Charlemagne, who had also gone to the British Isles for the leader of his palace school, Alcuin. But whereas Alcuin was a schoolmaster, Erigena was a philosopher. Unlike most of his contemporaries on the Continent, if not in Ireland, Erigena knew Greek.

This knowledge he put to good use in translating into Latin the works of Dionysius at the king's request. This undertaking may be what gave to his own philosophy its Neo-Platonic complexion. At any rate, when Erigena began his greatest work, *Of the Division of Nature,* he was already a Christian Neo-Platonist.

From Dionysius he derived the idea that the universe is hierarchically arranged from God to man, and from Porphyry the idea that the logical universe is hierarchically arranged from the most inclusive class, Being (*ousia,* sometimes translated *substance*), to the least inclusive, individuals. Since all logical classes are contained in and can be derived from Being, so all things are contained in and can be derived from God. What is easier than to identify the two, especially since God's creative activity is essentially the same as thought and logic is the art of thinking?

Accordingly Erigena erects a theory in which all proceeds from God and all returns to God in good Plotinian fashion. Nature—or everything whatsoever—is logically analyzable into four classes: the uncreated and creating—God as the source of things; the created and creating—the Platonic forms which, we have seen, have become the patterns in God's mind after which particular things are made; the created and non-creating—the individual things made after the pattern of the forms; the uncreated and not creating —God as the goal of all existence. These reduce to two classes, God and His creatures. But the distinction here too is obscure, for there is no independent existence of forms and things and God is present in all. The process which to us is temporal is really eternal or logical, and creation is logical implication. Thus, when the Bible states that God made the world in six days, it is speaking metaphorically. The world has always been and always will be, just as the axioms, postulates, and definitions of geometry always have and always will imply the theorems.

This interprets all existence as logical, and the only important difference between logical classes is their inclusiveness. The class of animals includes more than the class of mammals; the class of corporeal substances includes more than the class of animals. Since implicativeness varies directly with inclusiveness, the most inclusive class implies all the others. Thus it seems worth while to attach the words "most real" to the most inclusive class, since the reality of everything else is "bound up" in its reality. Erigena does this and God becomes the *summum genus*—the highest class—in the Tree of Porphyry.

But when that identification is made, God is like the One of Plotinus in that He is beyond description. None of our adjectives apply to Him and our knowledge of Him must always be negative. We are back where we were in Philo's time and, as in Philo, we must know God only mystically or through His emanations. Physics thus becomes a branch of theology, for its subject matter is a revelation of God through His creatures. What is more, the subject matter of physics must be God, and there is no God beyond the confines of what is usually called *creation*. But such an identity of God and the world is pantheism, always dreaded and condemned by the Church. For Catholic purposes—the explanation of creation and judgment primarily—God must be beyond the world; "transcendent" is the customary adjective. But this was impossible in Erigena's system and it was condemned by a council at Sens in 1225. This was about four hundred years after its appearance, so that it had plenty of time in which to be read and to spread its influence.

There were other errors besides pantheism in Erigena. His *Division of Nature* was a dialogue, like the *Timæus* of Plato. Its conclusions were drawn according to the rules of logic from certain premises. These premises are to be found in the Bible. But in order to interpret them, since they are expressed in figurative language, it is necessary to use reason and not to go to the authorities, such as Saint Augustine, Saint Jerome, Gregory the Great. We accept on faith the Bible's truth; we reason about its interpretation. But since almost every line has to be interpreted, and since interpretations differ, the Church early saw that it would have to adopt certain interpretations as standards and reject all others. Erigena, on the contrary, saw no reason to acecpt any interpretation other than his own which he naturally believed to be preëminently rational. And because of that position he encountered further opposition. He raised the whole question of authority *vs.* personal interpretation, which will cause such trouble at the time of the Reformation.

Again, because of his Neo-Platonic theory of a way up as well as a way down, he concluded that all must return eventually to God, so that all sinners in time would be saved. But if this is true, then there is no permanent hell. In fact Erigena taught that hell was a state of inner wickedness, not a place; the consciousness of guilt is torture enough for man, he maintained. He could scarcely believe otherwise. For like many later Neo-Platonists, especially in England, he identified our knowledge of things with the things themselves and hence hell, like everything else, had to have a "subjective" existence. Erigena may, in fact, be called one of the earliest, if not the earliest, "subjective idealist."

One should interpolate here a section about the beginnings of philosophy among the Arabs and Jews, who were attempting to do for Mohammedanism and Judaism what the philosophers whom we have mentioned were trying to do for Christianity. Curiously enough, their earliest philosophers about whom we have any definite knowledge appear about the same time as Erigena: Alkindi, who like his Christian *confrère* was a rationalist in theology but, unlike him, a man of science, and Isaac Israeli (*c.*855–955), a physician. The tendencies of both these men and their followers were Neo-Platonic though, knowing more of Aristotle than their western contemporaries, they were more likely to use Aristotelian language to express their thoughts than Plotinian.

The importance of the earlier Arabian and Jewish philosophers was their scientific and not their philosophic attainments. Europe did not go to them for philosophy; it went to them for optics, mathematics, chemistry, physics, and medicine. This does not mean that these philosophers were not great men. Among their later figures, Avicenna, Averroes, Maimonides were as great as any Christians of their time, with the exception of Saint Thomas and Duns Scotus. Some of them had a certain influence on their contemporaries. But on the whole they were out of the center of European culture, for the theologies which they were illuminating were not dominant in western Europe. Hence there is very little reason in so brief a history as this to deal with them extensively. We shall introduce their names when necessary, but shall give no detailed and continuous narrative of their philosophic development.

Because of wars and invasions, Europeans of the tenth century left little of philosophic importance to their descendants. The Northmen, whom Nordics of the present day like to exhibit as models of human perfection, came down from Scandinavia and, sailing up the river beds of northern France, laid the country waste. They sacked Rouen on the Seine, came up the Loire to Auvergne, up the Garonne to Toulouse. Much of this occurred during the thirty years in which Erigena's king, Charles the Bald, was reigning. They demanded heavy ransoms and tribute and were one of the chief causes in the debilitation of the Carolingian dynasty. Besides their disturbing invasions, the government had to contest the presence of Germans and Hungarians, to say nothing of the rising tide of petty nobles. It is a time remembered chiefly for its bloodshed.

Yet there managed to be established in France schools which continued the old traditions. The most important were run by the monks of Cluny (Benedictines), and their school at Fleury-sur-Loire under Abbo (late tenth century) attained a great reputation, surpassed only by that of Chartres. Perhaps the most outstanding figure of the time was Gerbert (Pope Sylvestre II) whose learning was prodigious for the time, so prodigious that he acquired an unfortunate reputation as a magician. Though not a creative philosopher, Gerbert, who had spent some time in Spain, absorbed a certain amount of Arabian culture which he passed on to his younger contemporaries.

But now a new problem was beginning to worry Christian philosophers. Porphyry, whose *Introduction to the Categories of Aristotle* was the authority on matters logical, had asked three questions which were of extreme importance to the Church. These questions were: (1) "Do genera and species (*i.e.*, class concepts—Platonic forms) exist in our minds alone or do they have separate existence?" (2) "Are they corporeal or incorporeal?" (3) "Are they separated from sensible objects or are they always in them?" These questions were important because certain Church dogmas seemed to demand one answer rather than another. We have already seen that Saint Augustine's theory of history seemed to demand the theory that it was the Platonic form "humanity" which sinned in Adam and not merely Adam, a single human being. The doctrine of Christ's atonement seems to demand an analogous theory. There was also the doctrine of the Trinity in which deity undivided must be itself and at the same time present in three hypostases. There was the doctrine of transubstantiation in which Christ's body and blood must appear in various places at the same time. There was the doctrine of the Church invisible—the true Church, of which the various physical churches are merely examples or instances. Now these are traits of Platonic forms—which we shall in this connection call "universals" after the Latin usage which became that of Europe. If universals are real, incorporeal, and separate from sensible things, then these dogmas are more easily explained; whereas if they are simply mental or names, or are corporeal or inherent in sensible objects, then these dogmas will be explained with difficulty.

Erigena was obviously on the side of those who believed universals to be real. In fact, he believed in a graded scale of reality, as we have said, with the most real being identified with the most universal concept. People in the ninth and tenth century, if they thought about the question at all, thought about it in much the same way—a doctrine known as mediæval realism. There was, however, one figure whose writings are almost all lost, who took the opposite point of view, maintaining that universals were simply names given to things. Thus to call something "red" is not to impute to it the presence of a universal something, "redness"; it is simply to name a certain property which it has, and presupposes nothing of the "reality" of that property. In fact, this person, Roscellinus, seems to have suggested that it had no reality and that only individuals were real.

The effect of this point of view was too alarming to be borne with resignation. Not man but Adam fell; not Christ but Jesus died on the Cross; not the Church but churches teach this and that. In fact, Roscellinus is held to have said that the three persons of the Trinity were three and not one, though there is grave doubt about the exact meaning of his words, as there is about the meaning of the dogma he was criticising. At any rate, he was tried before a council at Soissons in 1092 and found guilty. He retracted.

This left realism triumphant for the time being, and a contemporary of Roscellinus, Saint Anselm (1033–1109), who became Archbishop of Canterbury, drew from it a very pretty proof of the existence of God. According to the scale of universals, represented by the Tree of Porphyry, the most real and most perfect is God. Anselm finds that we have an idea of such a most perfect being and argues that a being to be most perfect must lack nothing, for if it did, that lack would be an imperfection. Hence it could not lack existence. Hence the most perfect being must exist. And as the most perfect being is God, then God exists.

The replies made to Anselm—and there was a famous one made by one of his monastic colleagues, Gaunilo—overlook the essential part of the doctrine. According to realism, there is no distinction between a universal and an idea of it. The universal "redness" and an idea of redness are identical. Hence when one has an idea of a most perfect being, ultimate perfection is present to one's mind; whereas in the case of most perfect fairies—which are often used to refute Anselm—most perfect fairy-ness alone is present. Fairies are not universals; God, however, is—according to Anselm's presuppositions.

This ought to imply that when we have an adequate idea of God, God Himself is in our thought. Saint Anselm does not draw that conclusion, so far as I know, but another philosopher, two centuries later, will.

Realism was taught in its most extreme form by William of Champeaux (1070-1120), a pupil of Saint Anselm.[1] He was reported to have held that universals were absolutely identical in all the individuals subsumed under them, and that the apparent variety of different members of the same class was accidental. This led to certain absurdities,—namely, that whatever was done to any member of a class was done to the whole class, so that if a rose were pulled to pieces, all roses would have been pulled to pieces. This induced him to shift his position and maintain that universals were present "indifferently" in all their particulars. But this was no better than his first position. Convinced of the difficulties of his doctrine, William is said to have done what is almost unique in the history of philosophy, to have admitted the truth of his opponent's criticism. He seems to have ended by maintaining that universals are not one and the same in their particulars but are merely similar. This is very much like nominalism, unless William read into the word "similar" the presence of a "real" over-individual common property.

There were many other varieties of realism with which we shall not deal, but content ourselves with noting a compromise solution attempted by one of the most interesting and unfortunate men of Catholic Europe, Peter Abelard (1079–1142). Almost everyone knows of Abelard's life story, his love for Héloïse, and his subsequent mutilation and trials; but few are familiar with the brilliance of his mind. He was in a way the *enfant terrible* of his day, and he attacked both Roscellinus and William of Champeaux, with each of whom he had studied. His own solution of the problem is not easy to determine. Both William of Champeaux and Roscellinus seemed to him to imply heresies: the former, pantheism, since if God is a universal there would be no differentiation between Him and the world which is within Him; the latter, tritheism and a number of similar things for obvious reasons. Abelard himself seemed to admit the possibility of several manners in which universals might subsist, first, in nature, as common properties; second, in the mind of God, as the patterns after which He formed the world and therefore existing prior to the world and therefore to their particulars; third, as ideas in our minds, abstracted from the particulars. This view is, as far as I can see, the same as that held by Saint Thomas one hundred and fifty years later, which became the official view of the Church.

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[1] I follow here De Wulf's exposition in his *History of Mediæval Philosophy,* N. Y., 1909, pp. 179 ff.

Perhaps if Abelard had been content with so sane and liberal a solution of this problem, his career would have been happier. He tried instead to solve other and more delicate problems in a similar fashion. He, for instance, had a profound love of pagan literature, not unlike that of his younger contemporary and sometime auditor, John of Salisbury, and could not see how a merciful God would condemn such noble beings as Socrates to eternal hell simply because he had been born in Greece rather than in Judæa or before Christ rather than after Him. Again he could not see how the three members of the Trinity could have equal power; nor how the Holy Ghost could be of the substance of the Father or the Son; his Neo-Platonic bent made him identify the Holy Ghost with the Plotinian Soul of the World—which it probably was historically. These and similar errors which were collected and denounced at a council of Sens in 1140 show that Abelard was a very sceptical person indeed and doubtless deserved the condemnation which Pope Innocent II promptly gave him.

Abelard would no doubt have fared better at the hands of the Church if it had not been for Bernard of Clairvaux (1091–1153). Abelard was in the tradition of the Greek fathers, an intellectualist who could see no conflict between religion and reason. Saint Bernard was like one of the Latin fathers in his hatred of intellect. Like Tertullian, he would make a sacrifice to God of his reason, that he might be the more perfectly humiliated. Why all this logic-chopping, these proofs of God's existence, these syllogisms and enthymemes to prove what all good Christians know anyway? Why not turn inward and listen to the promptings of the heart? Why be always seeking for evidence and facts? Abelard was to him but a vainglorious, overweening sophist, interested not in the truths of Christianity but in puffing up his own reputation. He was guilty of the sin of pride; he had no love of truth; and pride was one of the seven deadly sins.

Christian humility was the greatest value in life to Saint Bernard. It was a return to the old oriental ideal, the opposite of the Greek ideal of sovereignty. It had always been present in Christianity, which had never ceased to demand the suppression of whatever made for self-assertiveness. Some, like Tertullian, suppressed the reason; others, like Saint Jerome and the ascetics, denied the flesh; others, like Saint Paul, denied self-rule, emphasizing in turn faith, chastity, obedience. Still others denied the right to riches and made poverty the center of their teachings. All of these denials were for the sake of a greater unity between man and God, as if self-assertiveness, or pride, was separateness. Saint Bernard's humility was a concept embracing all of these denials. The humble man went through the various degrees of self-denial until finally he became merged with God as a drop of water merges with a great quantity of wine. This union, which is described as was traditional among Christian mystics as a marriage, springs from love, for the humbling of man before his creator is the yielding of a lover to his beloved. One loves first oneself for oneself: one then passes on to a love of God for oneself; this leads to a love of God for God's sake; and finally—the almost impossible state of union—one loves oneself for God's sake.

But there was another side to Saint Bernard's philosophy. Man was not merely the melting lover, yearning for mystic union. He was also a worker for God. The Latin mystic is different from the oriental in that he often is intensely practical as a man of affairs. Saint Bernard founded monasteries, sermonized endlessly, preached the Second Crusade, wrote hundreds of letters, carried on ecclesiastical intrigues, traveled far and wide, and was perhaps the most influential churchman of his day. "Work for God, do not theorize about Him," might well have been his motto. We see the spirit of Saint Bernard in Protestant form in the modern American business man: impatience with theory, faith in ineffable ideals, great practical ability.

Saint Bernard's contemporary, Hugo of Saint Victor (1096-1141), was no less of a mystic than he, but much less contemptuous of science. A less practical person, he sought a knowledge of God in intellectual pursuits, and his colleagues among the Victorines were equally interested in collecting information about the universe. He was one of the second generation of encyclopædists, whose greatest representative is Vincent of Beauvais. But in spite of his intellectual pursuits, Hugo of Saint Victor, like Saint Bernard and the early Christians, repeats the note of man's complete dependence on God. To make it more complete, he emphasizes God's entire freedom from control; and in him we see emerging what will be more noticeable in a later figure, Duns Scotus, the theory that God does not even follow the dictates of reason. He does what He pleases and thus makes right and wrong. In the traditional phrase, God did not make the world because it was good; it is good because He made it. This notion that what is called the Will creates values and is not led by them is a complete reversal of Greek intellectualism. We shall see it appearing in several forms. First God, then any sovereign, the King, the Will of the People, Common Sense, and finally the Individual will all be said to be sovereign in that way, determinative of what is good and bad, beautiful and ugly, and finally true and false. Though this theory, which we shall call voluntarism, was conceived in the interests of Catholicism, it was rejected by the Church and soon became a weapon used against her by her enemies.

The movement we are discussing becomes a philosophy of life in Saint Francis (1182–1226). Saint Francis, after his conversion, had no combat in his life. It was of a simple texture throughout and woven of the threads of humility. Perhaps the best expression of it is in the *Little Flowers,* wherein Saint Francis and Brother Leo are walking from Perugia to Saint Mary of the Angels and discoursing of perfect joy.

> Whenas S. Francis was going one day from Perugia to S. Mary of the Angels with Brother Leo in the springtide, and the very bitter cold grievously tormented him, he called to Brother Leo that was going on before and said thus: "Brother Leo, though the Brothers Minor throughout all the world were great ensamples of sanctity and true edifying, nathless write it down and take heed diligently that not therein is perfect joy." And going on a little further, S. Francis called a second time: "O Brother Leo, albeit the Brothers Minor should give sight to the blind, make straight the crooked, cast out devils, make the deaf to hear, the lame to walk, the dumb to speak, and (greater still) should raise them that have been dead

a four days' space, write that not herein is perfect joy." And going on a little, he cried aloud: "O Brother Leo, if the Brother Minor should know all tongues and all sciences and all the Scripture, so that he could prophesy and reveal not only things to come but also the secrets of consciences and souls, write that not therein is perfect joy." Going on yet a little further, S. Francis called aloud once more: "O Brother Leo, thou little sheep of God, albeit the Brother Minor should speak with the tongue of an angel and know the courses of the stars and the virtues of herbs; and though all the treasures of the earth were revealed unto him, and he understood the virtues of birds, and of fishes, and of all animals, and of men, and of trees, and of stones, and of roots, and of waters, write that not therein is perfect joy." And going on a little further, S. Francis cried aloud: "O Brother Leo, albeit the Brother Minor could preach so well as to turn all the infidels to the faith of Christ, write that not therein is perfect joy." And this manner of speech continuing for full two miles, Brother Leo with much marvel besought him, saying: "Father, I pray thee in the name of God, that thou tell me, wherein is perfect joy." And S. Francis thus made answer: "When we come to S. Mary of the Angels, all soaked as we are with rain and numbed with cold and besmirched with mud and tormented with hunger, and knock at the door of the house; and the porter comes in anger and says: 'Who are ye?' and we say: 'We be two of your brethren:' and he says, 'Ye be no true men; nay, ye be two rogues that gad about deceiving the world and robbing the alms of the poor; get ye gone:' and thereat he shuts to the door and makes us stand without in the snow and the rain, cold and a-hungered, till night-fall; if therewithal we patiently endure such wrong and such cruelty and such rebuffs without being disquieted and without murmuring against him; and with humbleness and charity bethink us that this porter knows us full well and that God makes him to speak against us; O Brother Leo, write that therein is perfect joy. And if we be instant in knocking and he come out full of wrath and drive us away as importunate knaves, with insults and buffetings, saying: 'Get ye gone hence, vilest of thieves, begone to the almshouse, for here shall ye find nor food nor lodging;' if we suffer this with patience and with gladness and with love, O Brother Leo, write that herein is perfect joy. And if we, still constrained by hunger and cold and night, knock yet again and shout and with much weeping pray

> him for the love of God that he will but open and let us in; and he yet more enraged should say: 'These be importunate knaves, I will pay them well as they deserve,' and should rush out with a knotty stick and taking us by the hood, throw us upon the ground and send us rolling in the snow and beat us with all the knots of that stick: if with patience and with gladness we suffer all these things, thinking on the pains of the blessed Christ, the which we ought to suffer for the love of Him: O Brother Leo, write that here and herein is perfect joy: then hear the conclusion of the whole matter, Brother Leo: Above all graces and gifts of the Holy Spirit, that Christ granteth to His beloved, is to overcome oneself, and willingly for the love of Christ endure pains and insults and shame and want: inasmuch as in all other gifts of God we may not glory, sith they are not ours but God's; whence saith the Apostle: What hast thou that thou hast not received of God? And if thou hast received it of Him, wherefore boastest thou thyself as if thou hadst it of thyself? But in the cross of tribulation and affliction we may boast, sith this is ours; and therefore saith the Apostle, I would not that I should glory save in the cross of our Lord Jesus Christ." [1]

Comment on this passage would be an insult both to the reader and to Saint Francis. It is self-explanatory. The unjust and therefore meritorious punishment which Saint Francis calls "perfect joy" is either revolting or exquisitely moving. It is as fine a statement of what the voluntaristic mystic stood for as could be found. For in it is complete abnegation of sovereignty, total reliance on God.

Saint Francis's humility is different from Saint Bernard's. For his love of God is a love of God's presence in all His creatures. He seems to have felt a real kinship not only with other men and animals, but also with inanimate nature. Saint Francis is a Neo-Platonist in practice if not in beliefs—for it is doubtful whether he had any clearly formulated theology.

The formulation of Franciscanism was left to a thirteenth-century figure, born a few years before Saint Francis's death, Saint Bonaventura (1221–1274). He was, as a matter of fact, probably a member of the Franciscan order, though that is not certain. Bonaventura, like Hugo of St. Victor, made of philosophy a road to God. One studied it not because it revealed information about a world which was in itself interesting, but because it elevated one to the ecstatic vision. The world was like God because it was an expression of God—as signs are an expression of meanings not themselves. To join God is a journey of three stages. First, one studies the sensible world; in it one finds God in its orderliness and in its beauty. The idea that orderliness and beauty are somehow a manifestation of the supernatural will become endemic in European mystics. Had one the space, one could trace it step by step from Bonaventura to Bernardin-de-Saint-Pierre. Second, we turn our eyes inward and find His image in our soul; our intellect is His. This was, of course, much like what Saint Anselm had implied, as we noted above. If our intellect is a repository of universals and universals are the thoughts of God, then the appearance of our thoughts to us is the appearance of the thoughts of God to us. This image of God conducts us finally to mystic union with Him.

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[1] *The Little Flowers of St. Francis,* tr. by T. W. Arnold, N. Y., 1925, ch. viii.

By the thirteenth century, mediæval civilization had taken on that unity and order which are its most characteristic traits. The Arabians and Jews in Spain had spread a knowledge of Aristotle in Europe which was more than his logic; and a more precise vocabulary was given philosophers with which to sharpen their thoughts. But it must not be imagined that the absorption of an Aristotelian terminology changed greatly the fundamental conceptions of philosophy. These remained Neo-Platonic for the most part. Philosophy always retained the Neo-Platonic hierarchy of beings, the theory of separable forms, the theory of the perfection of God, to mention only the most significant details.

The rationalistic tradition of Christian philosophy is best expressed in Saint Thomas Aquinas (*c.* 1225–1274), a contemporary of Bonaventura. Saint Thomas was a pupil of Albertus Magnus, who was of the first generation of the great systematizers. In Bonaventura the task of man was to know God through love—mystically. In Saint Thomas it is to know God intellectually. He really belonged to the same tradition as Abelard—whose theory of universals he duplicates—Saint Anselm, Erigena, and the Greek fathers, in his attempt to explore everything by means of the reason. God Himself for Saint Thomas is not a great will but a great intellect. He acts not as a capricious tyrant whose every whim is law, but as a philosopher-king who follows the dictates of criteria which are determined rationally. God is an intellect in which all ideas are adequate, or rather He is the intellect which creates the ideas after which particular things are made. These ideas, archetypes of the created world, are the Platonic forms. And as in Plato and Aristotle, the will is subject to the intellect, so in Saint Thomas, God first decides what is right and wrong, good and bad, and then does it.

Thus we have God's mind peopled by Platonic forms and the world peopled by objects made after these forms. Between God and the physical objects are three groups of animate beings: the angels, who are pure forms; animals, who are matter and form inextricably united, so that their forms perish with their bodies; and between them man, who is matter and form loosely connected, so that the soul, which is the intellect, is separable from the body, which is matter. Our intellects are like God in that our thoughts are forms, but we find forms incorporated in physical things. Hence our thoughts are never in this life adequate to their objects. We are like men looking at a painting and trying to divine the artist's intent in making it. The artist—Saint Thomas is here a Greek—alone knows exactly what he was striving to express. His idea is bound to be better than its expression, for the incorporation of an idea is always a degradation of the idea—this is Platonic, not Aristotelian. Could we have direct access to God's mind, we should know truth in a flash; but our intellects have been darkened since Adam's fall, and we must discover forms in their embodiment. By perfecting our intellects, we learn to perceive forms in matter more adequately and raise ourselves to the level of the angels and God.

Saint Thomas, however, does not believe that we shall ever attain complete intellectual perfection in this life. There will always be certain truths—that of the Trinity, for instance—which will be mysterious. The truth of these dogmas we know by faith. But just because we cannot explicate them by means of our reason, does not mean that they are irrational. How could God ask us to believe things which violate His very nature as a perfected Reason? It means rather that our reason is too weak to grasp them. But when we shall have attained heavenly felicity as a result of leading a virtuous life, we shall then know them in all their rationality. The end of life is thus—as in the Greeks of classical times—knowledge, and the joys of heaven are the possession of truth. This was the sole reward that Saint Thomas held out to the people of the thirteenth century for being good; to know truly seemed to him self-justified.

As regards the question of universals, Saint Thomas is a modified realist. The universal exists in things as their essence; it exists before things as an idea in the mind of God after which He will shape them; it exists apart from things as their essence abstracted by us, as an idea in our mind. This raised the question of how things came to be separate individuals. For if a dog is just incorporate caninity, why are not all dogs of a given class alike? Saint Thomas believed that spatial position (*materia signata*) individuated them. Since matter itself is individuated by its position in absolute space, whatever is incorporated in matter shares its individuation. This is the same fact on which the principle of the alibi rests in law. One must first have a matrix of absolute space given with fixed position, and the individuation of matter follows from that.

The theories of Saint Thomas—or the Dominican tradition—were opposed by those of Duns Scotus (*c.* 1270-1308), a Franciscan. Duns Scotus, though a famous dialectician, shared the Franciscan repugnance to the intellectualistic treatment of theology. He seemed to feel that if God were subject to rational analysis, His dignity would be violated. Hence he used his brilliant mind to criticise the speculations of others, feeling apparently that if the reason could not attain truth about God, at least it could reveal falsity.

God, then, was for Duns Scotus an absolutely free being, unhampered by laws of right and wrong. Neither moral law nor natural physical law hinders Him; He is above them both. For the Will is entirely automotive; it is neither pushed from behind by an impulse nor pulled onward by a goal. It acts entirely of its own accord. This applies not only to God's will but to all wills; and at times Duns Scotus speaks as if it applied to certain parts of the inanimate world as well. For at all costs he wishes to avoid a rigid determinism. He thus leaves the human will free, to act or not to act, to act thus or to act thus. There is no power compelling us to do one thing rather than another. We do what we do spontaneously.

Duns Scotus finds himself therefore in a pronounced individualism which is logical as well as ethical. For he is so anxious to defend the right—and ability—of a person to follow his own inclinations, that he insists that we are not all instances of the universal "humanity," whose fate was decided once and for all by Adam. We are, on the contrary, as Plotinus seems to have maintained, separate and independent beings. Nor is the universal "humanity" half so real as we are. This doctrine Duns Scotus extends to all things, and his followers will revive the nominalism which went into a decline with Roscellinus two centuries before.

But after all, why is Duns Scotus so emphatic in insisting on the reality of individuals? Is it because of his innate liberalism, his desire to let all men do as they please and find salvation in their own way? One might suspect so when one reads that there are no rules of right and wrong; that lying, for instance, and, by extension, the other sins, are not inherently wrong but are wrong simply because God forbids them. Such an attitude, one suspects, is the mark of a liberal thinker who believes in freedom of conscience and self-determination. So that when we find him saying that Jews should be forcibly baptized, and that their children should be taken away from them by the state and Christianized if they are unwilling to Christianize them themselves, we are somewhat shocked.

The shock is unwarranted. Duns Scotus's interest in freeing man is an interest in humiliating him the more thoroughly. He is Franciscan to the core and sees that the perfect joy which the founder of his order describes is the more perfect when it is brought on by one's own volition. Obey God, he says, not because what He orders is right, but because He orders it. Ask no questions; bow the head, and give in. There is no discussing the right and wrong of His commandments. They are right because He issues them. Hence if other people will not obey them freely, they must be forced to. That combination of ethical nominalism and voluntarism and illiberalism is not uncommon even today. We have learned since 1917 that a people can revolt for the sake of freedom and in its name institute a tyranny as thorough-going as the one it overthrew. It is, indeed, one of the natural consequences of voluntarism. For if a will constitutes right and wrong, once constituted, they exist and are as imperious in their demands as they ever were in a rationalistic system. Examples of this can be found in democratic America, where the sovereignty of the law is supposed to be above criticism; what it commands is right. So Rousseau in the eighteenth century argued that the Common Ego—which we should translate as the Will-of-the-People—can do no wrong. Before him Hobbes in the seventeenth century had said the same thing about the will which was the king.

Like these later figures, Duns Scotus was faced with the fact that men did live in society and submitted their wills to a higher power not God. In "a state of nature" this was not true, he maintained in explanation: men lived each according to his own lights; all were equal; there were no kings nor other political officers. Each exercising his own will led to discord, and discord was seen to be the worst of evils, for when all are at war, no one's will is satisfied. Accordingly they chose a leader, a director, whose will would be substituted for theirs. What form they chose was unessential: Duns Scotus does not believe that one form of government is inherently better than any other. But once constituted, sovereignty is in the hands of the prince who is chosen, and his will, in matters which are not spiritual and thus directly the concern of God, is supreme.

The opposite doctrine was preached by Saint Thomas. Sure of the innate rightness and wrongness of certain things, he was able to devise a form of government which in itself would insure the attainment of good and the avoidance of evil. For Duns Scotus, primitive man lived in accordance with his own caprices; for Saint Thomas—as for Aristotle—man is essentially a social animal and has never lived in isolation. Societies may be governed—as Aristotle had said—in three ways: by one man, by a small group, or by the people as a whole. But in nature all things are governed by one: the body by the heart, the soul by the reason, the world by God. Since art should imitate nature, our institutions (which are artificial) should imitate nature's and we should have one ruler. There is, of course, the danger of a tyranny resulting. But that is also true of the other forms of government. The tyranny of one man, however, is more tolerable than that of several, and less dangerous. Yet it, too, is an evil and it must be guarded against. Now appears the secret of Saint Thomas's political speculation. The one way to guard against tyranny is to make the temporal power subordinate to the spiritual, the king to the pope. Then we shall be sure, because of the pressure of God's vicar, that the king will govern for his people's sake and not for his own.

It is worth stopping for a moment to recall what the political situation was in Europe in the thirteenth century. Feudalism had reached its apogee and spread throughout almost the whole of Christendom. Feudalism was a secular form of the celestial hierarchy; it arranged political power in the same scheme of emanations as the Neo-Platonists had arranged cosmic power. The emperor or king occupied the same position in his hierarchy as God or the pope did in his, and the serfs occupied the same rank as Matter or the catechumens or Non-being. Moreover three popes, Gregory VII, Innocent III, Boniface VIII, had made daring attempts to absorb the feudal hierarchy into the ecclesiastical, with the pope as the head of both. The king wielded his temporal power only at the good will of the Church; and popes had excommunicated kings for sins, had shut down their churches until their subjects in desperation arose against their lords and forced them to make their peace with Rome, had absolved subjects from their oaths of fealty. They had, in other words, not only proclaimed their supremacy but exercised it.

The theory of this was perfect. It was expressed in Dante's *de Monarchia* as clearly as anywhere else and rested on the same argument as the theory of Saint Thomas. Kings rule through the tolerance of God; God's will is made known through the pope; hence the king should be subject to the pope. The pope wielding the spiritual sword is interested only in right and wrong; he is not the founder of a dynasty; he can have no personal ambitions; he sinks himself in the Church. Therefore should papal supremacy be assured, right would inevitably triumph. Aside from the question of the actual disinterestedness of the popes, there was another feature which charmed thirteenth-century Catholics and which moved Dante to ecstasy. That feature was the unity such a theocratic empire would have. No longer would Europe be a number of separate states; it would be one state under immediate vassalage to God. Since the Church is eternal, that state would be eternal and no longer subject to the ups and downs of fortune. It would be as catholic and universal as the Church itself and thus earth would be as Eleatic as heaven.

This period in fact—not what are called "the Middle Ages," but the late twelfth and early thirteenth centuries—sees Europe in a state of maximum unification. Even the schism between the eastern and western churches is healed for a brief eight years, temporal power is submissive to spiritual power, knowledge is systematized in the great *Summæ* and in the *Mirrors* of Vincent of Beauvais. The cosmic scene is as neatly arranged as a series of syllogisms; Dante gives us a picture of it in the *Divine Comedy*. The arts are controlled by the Church, which prescribes the very colors and gestures which may be used in paintings and sculpture and the decoration and shapes of buildings. Industries are controlled through the guilds and each guild has its patron saint. Education is formalized and practically everyone studies the same thing. Differences in nationality scarcely count at this time; a man is at home anywhere in Europe, for all speak the same language, Latin, worship the same gods, think the same thoughts.

And yet there are seeds of discord. The very unifying of feudal powers into kingdoms becomes a source of danger to the feudal system. The king, having tasted supremacy, is not eager to lose it and, as everyone knows, unites with the people against the nobles. The strengthening of kings weakens the hold of the Church, and Philip the Fair of France attains the point where he controls the papacy. Because of the rise of kings to a position which they had not enjoyed since the time of the Carolingians, one sees the beginnings of nationalism in Europe. Perhaps the most striking evidence of this is the rise of a literature in the vernacular. That the *Divine Comedy* should be written in Italian rather than in Latin is one of the most symptomatic features of the period. Whereas its subject matter is typical of the age that is dying, the vehicle of its expression is typical of the one that is coming to birth.

Philosophically the protest against unity is voiced in the philosophy of Duns Scotus. Characteristically enough, his disciple, William of Occam (died *c.* 1343), carries on the individualism of Scotus to the point of denying the existence of anything other than particulars and his Franciscanism by denying the possibility of rational proofs of God's existence. Believing in an extreme form of voluntarism, he held that whatever we did was self-determined, and hence he fought the supremacy of the Church in temporal matters. He, like Duns Scotus, was a good Franciscan and if he turned his back on reason, it was for the sake of greater humility. Thus he pleaded the cause of the Spirituals, who attempted a return to the life of poverty and simplicity which they imagined Jesus would have advocated. It was out of Franciscanism that a new orientation of thought would arise and not out of the more conservative doctrines of Saint Thomas.

Chapter V

RENAISSANCE ITALY

After the thirteenth century philosophy began to split up once more. There had never, of course, been any doctrine which might be called "European philosophy" or "scholasticism"; but after the canonization of Saint Thomas, Thomism for a brief space of time acquired a precedence which would have relegated all other beliefs to a subordinate position if the Church's supremacy had not been weakened. But during the fourteenth century the papacy was in Avignon; and with the papacy in captivity, the temporal power was freer to do what it would. National cultures emerged from the subterranean levels of folklore and superstition. The vernacular began, as I have said, to be a "respectable" medium of communication. It was to take years before it would be used for expressing the abstract thoughts of man, but still literature demanding serious attention was already written in it. Dante, Petrarch, Guillaume of Lorris, Chaucer were all thirteenth- and fourteenth-century figures.

For one reason or another the new national cultures make their first showing in Italy. We find them in Dante and the poets who followed him, in Giotto and the painters whom he inspired, in Saint Francis and his order. These men, though they are children of their time, are precursors of a new order, for each followed tradition in a new way.

Why Italy should have been the scene of this movement I do not know, nor do I see any way of telling with certainty. One can, however, hazard a guess. The seed of the new culture was in the revival of the classics. And the classics reached Italy first. During most of the fourteenth and half of the fifteenth centuries France and England were at war. Art and literature flourished in both, but in the traditional manner. To take the most striking example, Gothic architecture became flamboyant in France and the North; in Italy it was abandoned altogether and a new style was invented. Brunelleschi, who was responsible for the change, as much as any one man is responsible for anything in civilization, thought that he was reviving an old art, classic architecture, just as the first composers of operas thought that they were reviving Greek tragedies. But the architecture of the Italian Renaissance is about as Greek as Monteverde is like Æschylus.

Culture seems to follow trade and the pilgrimage routes. Italy was situated in regard to what was then western Europe as Alexandria had been some fifteen centuries before. The wars between popes and emperors had given her cities freedom and an impetus toward their establishment as autonomous states. The Babylonian Captivity of the popes and the Great Schism left Italy to her own devices. She utilized her energies in building up commerce, and the guilds rose to a position of importance in government second to none. There then happened what had happened in Athens in 460 B.C.,—namely, the rise of a despot to power who favored the demos; and in the fourteenth century the Italian cities were almost all in the hands of small replicas of Pericles. They had for the most part risen from the commercial classes—as Pericles had not—and kept their cities contented by fostering trade and industry.

Of these cities, Venice—which was, as everyone knows, not a tyranny but an oligarchy—and Genoa made their wealth through maritime commerce. Venice had from the earliest days of her history been in contact with the Orient when she had formed, like Ravenna, part of the Eastern Empire. When her fleet had been developed and her mercantile power with it, she had important privileges in certain eastern cities, like Sidon and Tyre. After the establishment of the Latin empire in Constantinople in the early thirteenth century, she not only acquired new lands in the Near East but commanded the trade routes from Constantinople and Asia Minor to western Europe. This position of commercial supremacy was fortified by the annihilation of her one great rival, Genoa, in 1380.

It was, therefore, natural that if anything were to move westward from the Orient, it should come to Italy, for Italy was the first country of importance and wealth which lay in the path. Hence, when Constantinople fell to the Turks in 1453 and the Greek Christian scholars left it, they sought Italy as their most natural refuge. One of these scholars, Gemistus Pletho, had preceded the general migration by some thirteen years and founded the Platonic Academy in Florence, reviving a Neo-Platonism which his critics felt to be less Christian than pagan.

But before going into the development of philosophy proper in Italy, let us note the events which occurred within the hundred years between 1450 and 1550 which might be suspected of changing men's minds and reorienting them.

There was, first, the revival of classical learning. This discovered to man not only new literary riches, but a new civilization, a new past of whose complexity he was scarcely aware. It became stylish to be a classicist and to know as much as possible about all phases of pagan life. Literary Latin was revived and written—John of Salisbury had tried in vain to do this in the twelfth century. Even one of the popes, Pius II, joined in the paganizing movement. The architecture of Brunelleschi was, as we have said, an attempt to revive the architecture of Greece and Rome. Excavations were carried on and old statues dug up. Much of our garden furniture of today, many of our architectural details—cornices, gables, columns—the shape of much of our furniture (the pierced gable of a Chippendale highboy, for instance) are degenerations of the architecture of so-called Renaissance Italy. Classical subject matters began to encroach upon Christian, Leda, Lucretia, and Venus Anadyomene usurping the position once held by Mary Magdalen, Suzanna, and the Virgin. It was no longer possible for men to see humanity so simply as Saint Augustine had; the Vatican Museum is living testimony to the fact that even the pope had to admit that all the gods were not devils.

The fifteenth century was also a century of explorations and voyages. The voyage of Columbus was but one of many which took place in these busy years. A new route was discovered to the Indies; a new world found, and a new people. If the revival of learning showed men that the past was vastly different from what they had imagined —they who had thought of Virgil as a magician—the voyages showed men that the very world in which they were then living was entirely different from all that they had accepted as true. History was changed; now geography changed, and with it anthropology. Man of the present was heterogeneous. These inhabitants of the new world were not merely unbelievers; they had never heard of Europe nor of Christianity. They had a civilization of their own and gods of their own.

In 1540 not only was this globe shown to be different from what men had been taught, but the universe as well. For the Copernican system of astronomy was given to the world at that date by Joachim Rheticus. Copernicus had himself formulated his ideas in Italy forty years before at least, and other Italian astronomers had talked and written of similar concepts. As we all know, the Copernican system made the sun rather than the earth the center of our universe and thus "reduced" the earth to the position of a planet. Aside from the scientific effect of such a revolution, the psychological effect must not be underestimated. The earth seemed to be degraded to some people and the dignity of mankind impaired. For men had been taught that the universe was not only geocentric but also anthropocentric. The sun had been made to warm us and light us by day, the moon to light us by night, the stars to guide mariners. If the sun became the center of the system, did that not imply that it could not have been made for so utilitarian a purpose? There were people who maintained that it did and that Copernicus was therefore anti-Christian.

The anti-religiousness of a theory might have been an effective preventive of its spread three centuries before, but by the sixteenth century something happened which encouraged men to defy the Church. I refer to the Reformation. People had criticized, had defied the Church before Luther's time, but none had succeeded. Luther defied it and succeeded gloriously. So did a number of his contemporaries and successors. It is obvious that the success of Protestantism is due in large measure neither to its truth nor to its moral superiority over Catholicism, but to its alliance with national ideals. Henry VIII did more for the Anglican Church than any theologian; so did the Elector Frederick of Saxony for the Lutheran. In fact, Protestantism was but one of the many phases of the disintegration of culture which has not ended even yet.

All of these and more novelties spread by the new art of printing, helped to break down men's faith in authority and tradition, for all violated authority and tradition. But for the same reason they stimulated an interest in man and this earth, physics, history, language, politics. They authorized the interest in diversity, for they were a shattering of unity.

To the Florentine Academy belongs the honor, if honor it be, of reintroducing Plato to Europe. The Plato of Latin Christianity had been the *Timæus;* now it was to be the Plato of the *Symposium* and the *Phædrus,* dialogues in which the beauties of life were more fully revered than in the severer dialogues. The most important individual in the Platonistic movement was Marsilio Ficino (1433–1499), who not only translated Plato and Plotinus but also wrote commentaries on their works. It is true that Ficino saw Plotinus and even Dionysius in Plato; he never succeeded in unearthing the sceptical dramatist of ideas that was underneath it all. That the dialogues reached no conclusion was to him and his group not evidence of a dramatic but of a mystical purpose, and they celebrated the supposed anniversaries of Plato's birth and death as the Alexandrians might have celebrated those of Pythagoras. He was essentially a religious mystic to them and thus he has been for the larger part of modern times to all of us.

Ficino was seconded in his Platonistic revival by Giovanni Pico della Mirandola (1463–1494). Pico was more versatile than Ficino and more ardent in utilizing his knowledge of the ancients. His great ambition seems to have been the unifying of all knowledge, the welding of the Hebraic and the pagan traditions. It was the ambition of many of the Alexandrians. To do this would involve the use of allegory and fantasy, and Pico found the language he needed in the

Kabbala. The Kabbala was full of numerical absurdities in the fashion of Neo-Pythagoreanism, of Gnostic myths, and other dark subtleties whose meaning was not to be discovered by the reason so much as by the imagination. Pico succumbed to the charm of this and read Plato in its light. As a result of this bias and Ficino's religious twist, a second type of Neo-Platonism arose.

This kind of Platonism would seem to be of no great intrinsic value, since on the Continent it led into the later alchemy of Paracelsus and the obscurantism of Reuchlin and of Agrippa von Nettesheim (1486–1535). Of these two movements, the latter is a revolt against the rationalism of theology which is very understandable. And indeed Agrippa's work, *On the Vanity of the Arts and Sciences,* is a growling against education in a fashion familiar enough in our own day in America. His point is that learning is not necessarily goodness and that an ignorant man may often know things of "deeper import" than the wise man. This attitude had been partly that of Meister Eckhard, a German mystic of the late thirteenth and early fourteenth centuries and has always been found in Germany, expressing itself most winningly in some of the German romanticists. As a matter of fact, it is also found in folklore in the well-known figure of the Wise Fool.

The alchemical notions of Paracelsus are more important. Their influence upon philosophy was not great,[1] but they did help profoundly to modify chemistry and medicine. For their author was one of many to urge an abandonment of authorities in these fields and to study what he called "nature" instead. He was vague enough in his concept of nature and attributed to her a host of mysterious agencies which she never enjoyed. But he was an orienter of thought and even if his results were largely erroneous, his leading idea was fruitful.

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[1] Except in their effect upon Jakob Boehme and through him on German mystic pantheism.

More interesting than the effect of Italian Neo-Platonism on medicine and chemistry, was its effect upon physics. Mr. E. A. Burtt's brilliant *Metaphysical Foundations of Modern Physical Science* has recently shown how the Copernican theory is an outgrowth of this movement, illustrated in Copernicus's assumption that the astronomical universe must be "an orderly mathematical harmony." The simpler and more harmonious account of things was assumed to be preferable to the more complicated and disjointed. This novel—or at least unorthodox—view became taken for granted in later physicists. It is obvious that its truth is not self-evident. It is by nature more of an æsthetic than a logical criterion of truth. Yet it and similar assumptions often guided the new physicists and astronomers in their work. Since they checked up their deductions by observation, no great harm was done. That they began to feel the necessity of thus checking them up was in itself relatively an innovation, as great as Galileo's dropping different weights off the Leaning Tower of Pisa to see whether —as Aristotelian physics implied—they would fall to the ground in different times. Galileo's contemporaries were inclined to feel as the Eleatics did, that if observation contradicted the reason, so much the worse for observation. The new point of view was to say, So much the worse for the reason. To see truth in observation was to seek truth in the external world and to put no authority other than a man's controlled senses at the head of one's deductions. But this meant that "Nature" could reveal truth. Ideas of Nature were as superstitious as those about Authority, for Nature meant very little more scientifically than the

Platonic Soul of the World, as it did in Wordsworth. Still the men of science were to forget the Platonic connotation of the word and for them the idolatry and superstition were at a minimum.

The breakdown of authority is especially well expressed in the philosophy of Pietro Pomponazzi (1462-1524). As Ficino and Pico represent the new Platonism, so he represents the new Aristotelianism. His great innovation was in going back to Aristotle himself to discover his teachings, instead of to the commentators. His reason for doing this was simple enough: it was that the commentators disagreed and hence afforded no guide to truth. The particular problem that he was interested in was that of immortality and he found three sets of interpretations. The pagans said that Aristotle did not teach immortality; the Arabians, that he granted it to the universal reason but not to the individual; the Thomists, that immortality was a dogma in the first place and could be substantiated in Aristotle by his admission that we know and will eternal things and that, as only like can know and will like, our souls must be immortal.

It is a matter of no great importance to the subsequent history of thought what Pomponazzi discovered to be Aristotle's real teaching. But that he reached his conclusions by starting with Aristotle's own premises is extremely important. He found two reasons in Aristotle why the soul must be mortal: (1) that the soul is the highest stage in a series which begins with sense impressions, and that if one took away the lower stages, the higher would fall to the ground; (2) that the soul was the form of the body and Aristotle did not believe forms to be separable from their matters.

All that Pomponazzi had done ostensibly was to make an interpretation of Aristotle, and if he had been content to rest there, he at most could have been accused of charging Saint Thomas with more originality than was conventional. But he saw fit to draw certain inferences.

He inferred, first, that if the soul was not immortal, there could be no fear of punishment nor hope of reward after death. But many people in his day, as in our own, felt that our condition in the after-life was the guide to our behavior in this life. Why be good here if not for heavenly felicity there; why not be bad here, if there is no punishment there? Pomponazzi's answer is characteristic of men who are finding earth interesting. It is that the good must be an end in itself and its attainment must be the one justification of virtuous behavior. It must be redefined if necessary so as to be consistent with mortality. It must be congruous with our status as higher than the animals and lower than the angels.

So Aristotle and Plato and their predecessors, it will be recalled, tried to find out what end was implied in man's essence, and not to assign to his life an end which was either too low or too high for his powers. All men, he concluded, have three types of intellectual activity: speculative, practical, and technical. Men think theoretically; they think for the sake of moral action; they think for the sake of building and creating (art). Of these, the practical activity is essentially human—the theoretical being a gift of God and very imperfect in us, the technical being too unevenly distributed in us to be essential. We are then essentially moral beings; and no matter how low our theoretical or technical talents, we are all equally gifted morally. The end of life is quiet happiness—an Epicurean end—and all of us are capable of attaining it. Pomponazzi does not say why he thinks this is the end of life; he apparently thinks the answer is obvious.

It is very interesting at length to find a man who will treat man's terrestrial life as a universe of discourse in itself. It was becoming the Italian tradition to act—if not to believe—as if this world were sufficient for our moral needs. Beneath the simplicity of the argument lay a deeper philosophy, which was to prove very disquieting in later years and which was in keeping with the Franciscan tradition,—namely, that the human will creates right and wrong and does not follow them.

This tendency is exemplified in Pomponazzi's contemporary, Machiavelli (1469–1527). Machiavelli's *The Prince* is on the face of it advice on how to be a successful sovereign. But underneath it lies a not too incoherent philosophy of life which was revived in the nineteenth century by Nietzsche, via Gobineau. This philosophy comes out most clearly in his *Discourses on the First Decade of Livy*.

Machiavelli's great discovery was that whatever theorists might say ought to be the aim of the state, the political scientist ought to say what it actually is. The moral criticism of politics is possible but usually fruitless. This means, to begin with, that Machiavelli is in the same class with Pomponazzi, who felt also that descriptive knowledge was worth while in itself, aside from any use to which it might be put. The rescue of objective studies was vital if civilization was to move on, for it was part of the same program which led men like Galileo later on to look to Nature instead of to Aristotle or Saint Thomas. It is the beginning of modern "realism" in the social sciences. The horror in which Machiavelli is still held is evidence enough of how incompletely the program has been carried out.

For Machiavelli, the word "ought" usually is used with reference to a given end. Thus a man whose end is murder "ought" to cover up his tracks as skillfully as possible. A man who wishes to be a saint "ought" to practice obedience, poverty, and chastity. But the so-called virtues are of no more inherent value than any other of our aims, and hence one cannot lay down rules for what all men "ought" to do irrespective of what they want to do. So Duns Scotus had maintained, it will be recalled, that lying was not evil in itself; it was evil because God forbade it. Machiavelli, like another famous man, a scientist, had no need of the hypothesis of God; and hence there is not even Scotus's type of sanction for certain acts as against certain others. The question is one of choosing one's goals. And for that there is no great argument needed, as far as Machiavelli goes.

For he is seduced by two great visions: national and personal greatness. He is captivated by Rome because she was great; she had a dominant will—the Scotist God is descending to earth. He would have Italy as great. His whole plea for a united Italy was based upon the glory that would be hers were she to be powerful again. The great nation to him is one which commands and is automatically obeyed; whose wishes are law. The same applies to the great individual: he must be magnificent, glorious—even in crime. What he felt to be the highest of human values was involved in this: life must be the expression of a powerful will.

Hence in *The Prince* Machiavelli's advice is to use whatever means are necessary to achieve one's aims. Lying, cheating, poisoning, anything, so long as one does not stir people to revenge. Sometimes honesty and generosity may be indulged in, if they attain the end better. But none of these names denote either virtues or vices. A virtue is what is best fitted to the purpose in sight; a vice, what is ill fitted. There is no other distinction. Christianity by obscuring this fact has weakened mankind. It has substituted other-worldliness for worldliness. It has no splendor in it. It is not a religion of brave men but of cowards.

Two things are clear: Machiavelli's ideal of the great man is such a person as Cesare Borgia, or almost any other Renaissance despot; and his conception of society is that of social atoms loosely organized by the despot into a state. Unlike Nietzsche—who derived so much from him—he had little sympathy with other than despotic greatness. Nor did he realize that there is an economic interdependence of individuals in a state which gives it, if not a unity, at least a fairly definite structure. The former of these two shortcomings—if shortcoming it be—is less excusable than the latter. Though magnificence was the order of the day, there were men like Savonarola or Michelangelo or Leonardo who were great without being magnificent. He was undoubtedly blinded by the glitter of courts and misled by his own frustrated ambitions.

On the other hand, his idea of the state is more understandable. Machiavelli, like William of Occam, was a nominalist, denying the reality of general ideas of right and wrong. To believe in a organismic state seemed at that time at least to be a realist rather than a nominalist. There is no state, he would have maintained, beyond and above the people who compose it; no society beyond men and women. That bias was itself determined in part by the actual condition of affairs. Though his native Florence, like most of the other Italian states, was run by men engaged in trade, there was still in the air the old feudal ideas of loyalty to a sovereign who was somehow or other an incarnation of the political power. This need not surprise us, as it lingers on even today, in spite of all we have had occasion to learn in the last ten or twenty years of the dependence of the nominal government upon the real government which holds no office. Machiavelli still thought in terms of a prince and his subjects, just as most of us still think in terms of "the Government" or "the Congress" or "the President." As a matter of fact, he is more excusable than we, for princes in his day really did govern.

He was, then, adopting the æsthetic attitude toward morality. That was very much like the attitude of the Copernicans toward astronomy. Neither group was fully aware of how little substantiation there was for their initial premise; it probably seemed to them self-evident. In both cases it was a return to paganism, for Aristotle's physical universe was also an æsthetic structure and the criteria of reality in metaphysics were his criteria of goodness in men. The well-balanced life was an end in itself for Aristotle, and all the pagans agreed that this life could be given inherent value. Christianity, on the other hand, granted neither reality nor value to terrestrial things and hence felt that this life was worthless except in so far as it prepared one for life beyond the grave.

The innovations of Machiavelli were as follows: (1) the objective—or "realistic"—study of the state and morality, (2) the transfer of Scotist voluntarism into politics, (3) the elimination of morality from political science, (4) the conception of the inherent value of personal greatness. He was, however, too revolutionary for his time, which preferred to be Machiavellian in practice and Christian in theory. He acquired one of the most sinister reputations in history, even worse, because more general, than that of Voltaire or Spinoza. "Machiavellian" came to mean "destitute of political morality, following expediency rather than right; cunning, crafty, perfidious."[1] For three centuries he had that character until Gobineau's *Renaissance* was published, in which his real greatness was at least suggested. Gobineau then inspired Nietzsche, who in turn stood father to all our current immoralists.

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[1] Chamber's *Twentieth Century Dictionary.*

The disintegration of authority, which for purposes of simplification we have attributed mainly to Pomponazzi, is part of the Franciscan—or Scotist—movement which tended to emphasize the individual at the expense of the group. But in Pomponazzi's theory that the practical intellect is primary within the individual, we see Franciscanism even more clearly, for the practical intellect is to all intents and purposes the Will of earlier Catholic thinkers. In Machiavelli this became more evident, for in him the will —at least of the Prince—was creative of values. In Bernardino Telesio (1508–1588) this notion of a will unguided by rational ends was generalized and all nature seen to be animated by an active force inseparable from matter.

Telesio's purpose is much like Pomponazzi's, except that where Pomponazzi was ostensibly attempting to interpret Aristotle without regard to the commentators, Telesio was attempting to interpret the whole universe in the same way. He believed, as his age in general believed, that man was self-sufficient and could discover truth unaided by authority as well as he could achieve salvation. Accordingly he pretended to limit himself to sensory observation and to abandon the use of reason. As a matter of fact, he did nothing of the sort. No one could. But whether he did or not is not half so important as the fact that he believed and taught others to believe that one could. He is one of the early founders of the "empirical" method in philosophy and science.

What his senses seemed to him to show was that the

Aristotelian analysis of things into matter and form was false and must be replaced by matter and force. Matter was not the inert, passive thing that it had been for the Greeks after Empedocles; it now had all the characteristics of Machiavelli's Prince. Its force was of two kinds, expansive and contractive: the first, heat; the second, cold. As matter expanded and contracted, it formed the different elements which were therefore, as in pre-Empedoclean times, no longer fixed, immutable substances. This, of course, accorded in a way with the practice of the alchemists, but it gave a naturalistic interpretation of the changes which they hoped to effectuate.

Expanding and contracting, matter moved Scotistically in accordance with the laws of its own nature alone. It existed for the sake of nothing beyond itself, and hence its movements could not be interpreted teleologically. Thus the elements did not seek their "natural positions," as in Aristotelian physics; they moved simply by impact. The planets too were unguided in their courses by spirits which controlled them. They were simply lumps of matter which described certain paths which seem to be "natural" to them. But since matter when expanding resists other matter which happens to be in its path, Telesio assumed that the active force was sentiency and that all matter felt. Otherwise, how could it rebound? It is worth bearing in mind that another philosopher, Leibnitz, born a century and a quarter later, developed an analogous theory of the activity and sentiency of all matter with an entirely different object in view.

There is another argument which Telesio advanced for the sentiency of matter. If matter were absolutely unconscious, he said, how could it give rise to beings who are conscious? For nothing can produce out of itself something which is not in itself. A cold object cannot produce heat; an object at rest cannot produce motion. Therefore minds could only have arisen from the mental, and since they arose from matter, matter must have mentality. This argument is worth examining if only for a moment, for it contains much that will be of great interest in succeeding thinkers.

First, it will be noticed that Telesio has no doubts about mind's having arisen from matter. Orthodox teaching on this subject was to the effect that mind had been implanted in our bodies at a certain moment of our lives. The moment varied; but that our minds were, so to speak, a gift of God only loosely connected with our bodies which contained them, in the Pythagorean manner, as a vessel contains liquids, was accepted by all orthodox thinkers. Telesio was heterodox on this point, as on many others, to the extent of breaking down the distinction between the mental and the physical in order to justify it.

Second, Telesio uses the old Greek causal postulate, which is going to be more and more used after his time, that only similar things can be causally related, "Like causes like." This postulate, as it is used by Telesio and by many succeeding thinkers, seems to consider causation as the transference of a property from one object—the cause—to another object—the effect. Thus, when a moving billiard ball hits one at rest and sets it in motion, it transfers its property of motion—or part of it—to the billiard ball at rest. This was a view held by Empedocles and perhaps Anaxagoras and in certain places by Aristotle. But its deepest implications were not felt until Telesio's time, and later.

Third, by making the mind a complex of sentient material parts, Telesio did two more things of influence. In the first place, he explained the whole content of our minds as complexes of sentiency, so that the Aristotelian dictum, nothing is in the intellect that was not previously in sensation, is restored to its original literalness. The intellect is absolutely dependent on sensation and hence its claims to know super-sensory truths, truths of another world, for instance, must be inferred to be groundless. In the second place, he atomized the mind and began the fashion of considering it to be a pattern of sensory lumps rather than a system of functions or processes. The former of these points of view led to the later attempts of Hobbes, Locke, and the French psychologists who derived from Condillac, at analyzing all thoughts into elementary feelings; the second, to the movement known as Associationism, which explained the union of the elementary feelings by the laws of the association of ideas, which, though logically different from what might loosely be called "sensationalism," has usually been accompanied by it.

The causal theory of Telesio was such that nothing could change of its own accord. Changes were not simply new details in the history of an event, indicating a curve which objects "naturally" described, but were new qualities, as we have said, transferred to an object from another object called the "cause." This meant that all change involved an external cause and, conversely, that an object in isolation would never change. This was expressed in the dictum which was not new in Telesio and which after his time acquired such popularity that it became axiomatic,—to wit, that everything tended to preserve itself. This dictum curiously enough became the foundation of Telesio's ethics, as it later became that of Spinoza's. He argued that since all things made for self-preservation, all things should preserve themselves and that knowledge should be—and is—but a means to the attainment of that end. That knowledge is not contemplation, as it was in Saint Thomas, but an aid to action, a means to survival, is a common enough opinion in our own day, but in Telesio's it was more novel. In fact, what is it but Bacon's famous phrase, "Knowledge is power"? It is Scotism made terrestrial and human.

But more than that, it is the essential spirit of what has been called the Italian Renaissance. The Renaissance was marked by men of power, men of genius; men to whom fatigue was unknown and to whom a desire was a command. That energy which we admire in a Michelangelo, a Cesare Borgia, even in so much less a figure as Cellini, sometimes creative, sometimes destructive, always sure of itself, many-talented, never vacillating, and withal blind and self-defeating, that is put into philosophic language in Telesio. He said many foolish things and many incredible things, but was so fitting an expression of his time that there is justification of Bacon's calling him, "the first of the new men."

By the end of the sixteenth century, the new astronomy of Copernicus was well known even if not universally accepted; and it was fitting that in Italy, which had contributed so much to its foundation, there should arise a man to adapt it to philosophy. That man was Giordano Bruno (1548–1600), born in Telesio's middle age. Bruno found his philosophic method in the Neo-Platonists, but his facts in contemporary science. Like all Italians whom we have cited, he is in revolt against authority and turns to Nature for instruction.

As in Telesio, but in a different sense, Nature is alive for Bruno. She is a divine thing, both active and passive, force and matter. She is described in terms that have become catchwords, as *natura naturans* and *natura naturata,* which is not unlike John Scotus Erigena's ultimate division of things into the creating and the created. She is now looked upon as having not "parts" but "aspects," a distinction which is of more influence than value; so that from one "point of view" she may be that which is created, whereas from another she may be that which does the creating. The difficulty of determining precisely the meaning of a "point of view" need not disturb us here any more than it did Bruno.

It did not disturb Bruno because, for the most part—and Bruno was a man whose ideas underwent an involved evolution—he believed that points of view are arbitrary. Every bit of knowledge is relative to the standpoint of the observer, and the observer can never reach a standpoint which will be so detached from Nature that all Nature is spread out before him and revealed in its most intimate essence. One would have to be Nature to know it so thoroughly, and being Nature would be to stop being ourselves. Hence, so long as we are what we are, we must be content with human means of knowing.

The relativity of knowledge is analogous to the relativity of certain physical things like position and motion. According to the Copernican system, the sun was the center of the universe and everything else moved about it. But, as Bruno saw, the determination of a center is an arbitrary affair. A point is an absolute center only if it is in a system with an absolute circumference. If, in other words, there is a sphere of fixed stars beyond which there is no space at all, and on that sphere all points are equidistant from the center of the sun, then the sun is the absolute center of the universe. But Bruno could not bring himself to accept the premise of this reasoning, for wherever there is a point, there is a point beyond. He cited the case of thinking as an example of the limitlessness of things. Our thoughts never reach an end; they go on forever, one implying another. But perhaps the more impressive analogy for him is that of the number series, for he is a Neo-Platonist at heart and that means a Neo-Pythagorean. Can one imagine the biggest number? Obviously not, for no matter how large a number one chooses, one can always add 1 to it. But if limits are arbitrary, then so are centers, and any point is as good an origin of radiating endless lines as another. There are therefore an infinite number of solar systems and thus an infinite number of worlds. Nature is infinite in extent and its activity is infinite.

This introduces into philosophy a new concept which will be particularly important in the early nineteenth century among certain German philosophers, the concept of infinity as a eulogistic term. In pagan thought the word "infinite" was a term of reproach, meaning in general "without limits." For most of the Greeks the indefinite was the bad; and I know of no pagan thinker who would have called God infinite. In Christian thought "infinite" was used to describe God, but instead of meaning "indefinite," it meant "most perfect." Thus God, as in the *Catholic Encyclopedia* today, was described as infinite in perfection, meaning that He was the height of goodness and the other virtues and contained no blemish. He was therefore more definitely one thing than any other being in the universe. But in Bruno the infinite means precisely the unlimited and suggests that, being neither this, that, nor the other, it is all things and therefore better than any.

The underlying cause of this is that Bruno, like the other

Italians, was impelled by what we have called voluntarism to see in activity the greatest human value. Activity in us is of course the Will and it is usually opposed to the Reason. What could be worse to a voluntarist than that that which is the one thing of value in the universe should come to an end? Hence the Will must be infinite, endless, never reaching its goal. For if it did, it would collapse into annihilation. But the Reason is essentially definite and precise. It creates distinctions, analyzes, separates; it erects the law of contradiction, which is the very soul of separateness. But the Will yearns to unite all things that its activity may run into no blind alleys, and the fiery appetite of a Bruno cannot tolerate the rejection of this for the choice of that.

Yet when his philosophy is rounded out, he breaks up the substance of the world into a collection of atoms which he calls "monads." The monads of Bruno are real individuals and seem to be a shattering of Nature into an infinite number of creative wills, as if thus Nature would be enriched. And yet he maintains that the monads are not external to one another but that they are hierarchically arranged and that the higher include the lower. The higher monads seem to be systems like the Copernican solar system or, to take a modern example, the Bohr atom, which though manifold in their members, yet have a structural unity. At the summit of the hierarchy is the monad of monads, which is God. This conception is interesting because it is the work of a Platonist who wishes to believe in particulars and not merely in forms. Atomism was a way out of the difficulties of Platonism, which seemed to be at the same time a means of preserving its benefits.

That Bruno should have been burned at the stake is not surprising. Almost all the philosophers whom we have mentioned were prosecuted by the Inquisition; many had their books burned. That institution by its attitude succeeded in keeping Italy free from curiosity after the opening of the seventeenth century and squeezed Italian culture into foreign lands. That it should have been in Dominican hands was natural enough. The Dominicans had given Thomism to the Catholic world; and Thomism, alone of Catholic philosophies, was sure that there was an eternal right and wrong, truth and falsity. If their belief is true, why is the Inquisition any worse than any other penal institution? Voluntarism, as the Church early saw, would make for indifference in morals and general laxity, and it was not inexplicable that the Brothers Minor, whose order was the order of voluntarism, were known for their laxity in later centuries. The Dominican order, under the auspices of Saint Thomas Aquinas, were sure of the road to heaven and the road to hell and did not purpose to encourage following the latter. Its action seems fatal to us who are brought up in Protestant countries; but it is doubtful, if we were Catholics, that we should feel that their efforts to keep the Church free from error were extravagant or vain. As a matter of fact, the genius of Italy was not killed because her philosophy and her science were killed. The history of music alone shows that the race which had produced Giotto and Michelangelo and Telesio and Galileo, to say nothing of the others who are as great and perhaps greater, had not gone sterile. Not even the forbidden philosophy died, for that matter, but, disguising itself in another form, it reappeared as baroque architecture. There the endless striving and vital energy of the Will could seethe and squirm to its heart's content and even adorn the House of God without anyone being any the wiser. But in so far as Italian genius was theoretical, it was at the mercy of a power which preferred certainty to inquiry, authority to reason; and as a result, its glory grew dim when it should have burst into flame. Italian philosophy undisguised passes into other lands. What it might have been had it been allowed to stay in Italy, it is futile to try to guess.

Chapter VI

ENGLAND FROM BACON TO HUME

Englishmen had gone to Italy at least as early as the time of Chaucer to polish their educations. By the time of Elizabeth it was an established custom, and Wyatt, Sir Philip Sidney, and later Milton, stand out as important figures who had learned much from their contact with the Italians of their time. But other Englishmen who did not travel in Italy found themselves profoundly modified either by the ideas of the Italians themselves or by the men whom the Italians had resuscitated from the ancient world. Thus one can hardly doubt that the prevalence of Neo-Platonic thought in such a man as Spenser is due in the last analysis to the work of the Florentine Academy, though it is equally true that by the Elizabethan period Greek was well known in England, as is attested by the numerous translations which appeared at that time.

In the case of him whom it is customary to call the father of modern English philosophy, Francis Bacon (1561–1626), the affiliation with the Italian philosophers is clear enough. He was particularly taken with Telesio, whom, as I have said above, he calls "the first of the new men," and is said by his most authoritative editor to refer to him more than to any other writer of his time.[1] But he also refers to Campanella, whom we have omitted in this sketchy history, and to Galileo. He was, of course, acquainted with the work of other men, like his fellow countryman, Gilbert, and Paracelsus. But the temper of his philosophy was an inheritance from Italy.

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[1] *Bacon's Novum Organum,* ed. by Th. Fowler, Oxford, 1889, p. 319, n. 30.

The attainments of Bacon are not so great as his reputation would have us believe, but he was of greatest importance in reorienting the English mind in accordance with the Italian idea. That reorientation was toward the direct study of Nature as against the exploration and exposition of authority. Some three hundred years before, his namesake, Roger Bacon, had urged the same program but had been frustrated in its realization by Saint Bonaventura to whose order—the Franciscans—he belonged. It is one of the ironies of history that the development of the doctrines of that order should be in large measure responsible for Francis Bacon's success.

Bacon's plea for empirical science reveals two traits of the "new men" which are typical. Only by empirical knowledge can we hope to make any advance in civilization. The famous phrase, Knowledge is power, sums up in a few words this thesis. Before the coming of the new men, advances in civilization were considered neither possible nor desirable; impossible because all that could be known was known, undesirable because this world was but a gateway to the real world and worthless in itself. Man did not wish power; he wished goodness. But the new men were interested in this world and, after all the discoveries and inventions of the sixteenth century, were in no mood to leave it uncontrolled. Bacon never ceases to emphasize the fact that we want knowledge for practical ends, and he has almost a horror of contemplative science, *i.e.,* theory. He seems to feel with Telesio that theory is divine but that practice is essentially human.

There are, however, several things which prevent human beings from attaining to real empirical knowledge. These are the four famous sets of prejudices which he fancifully calls "phantoms," the effects of which he believes to be disastrous. These prejudices are a barrier between us and Nature; and Bacon seems to believe that if they were removed, Nature would stand revealed to us as she is objectively. Knowledge, therefore, for Bacon, in spite of his apparent utilitarianism, is a reproduction in the human mind of the natural world. It is not in its essence a means of handling the world and, indeed, one wonders why he ever thought this reproduction of Nature would give power over her.

The first prejudices—known as Phantoms of the Tribe—are founded in human nature itself. They arise from our habit of interpreting the universe in anthropomorphic terms, looking upon the world through lenses which distort it, thus mixing our own nature with that of the world. Thus we read our likes and dislikes into the world, deciding, for instance, that the planets must move in perfect circles because we admire circles, or imagining a certain number of elements (regardless of observation) because of our love of the number. We see Nature seeking the fulfillment of purposes; we omit negative instances which would disprove our generalizations. We restlessly push on beyond the limits of possible knowledge to discuss questions which are insoluble by human beings, such as, for instance, the infiniteness of space and time, and the infinite divisibility of matter.

The second class of prejudices, Phantoms of the Cave, are inherent in the individual. Each of us surveys the world as from a cavern which is his peculiar constitution and education. One man's reading is different from another's; yet each bases his view of things in part upon it and both wonder why they do not agree. The personal equation modifies all our opinions and leads us astray from objective truth.

The third group of prejudices, Phantoms of the Market Place, are words. These are the most vicious of all. We argue about words to which we attach no precise meaning, never stopping to discover whether they are the name of any reality. Oftentimes words are names of inexistent things and often of things which exist but are confused in our minds and have no clear and definite properties. Thus we speak of chance, the first mover, the planetary spheres, the element of fire, none of which Bacon believes indicate real existents. On the other hand, we have words like "generation," "corruption," "alteration," and the like, which mean several different things and whose ambiguity gives rise to lengthy and profitless argument. If I give Bacon's examples here, it is not that none could be found in our own times, but merely to avoid dissension. But let me instance such terms as the following which constantly occur in debate and leave it to the reader to decide whether they sin because of meaninglessness or because of ambiguity: nature, romantic, cause, religion, sensation, force, potential (not in the electrical sense), purpose, consciousness. One does not need much acquaintance with philosophy to appreciate the harm they can do to one's thinking if used without scrupulous definition.

The fourth group of prejudices is those arising from transmitted theories, the Phantoms of the Theater, so named because they are as fictitious as anything seen on the stage. These arise not only from untrue philosophies but also from false inferences. Such traditions are those of Sophistry, which relies too much on subtle reasoning; empiricism, which relies on too few facts; superstition, which builds on fancy and symbolism. The Sophist—of whom Aristotle is chosen by Bacon as the shining example—deduces the nature of the world from categories and in general lays down certain abstract laws or concepts from which he infers an explanation of particular facts. To Aristotle Bacon preferred the colonial philosophers who explained physical fact by physical law, "who knew something of natural philosophy, and the nature of things, and experience and bodies."

If the mind is at the outset corrupted in these ways, how is it ever to be purified? The answer is, as might have been guessed, by going directly to Nature. The method of going to Nature consists in assuming first that everything there operating is due to physical and to no other type of causation. Bacon's method for discovering physical causation was well-nigh inapplicable. For he advocated the collecting of all the instances in which the given phenomenon occurs and all the instances in which it does not occur; and the common difference between them would be the cause of the phenomenon. One must of course be guided by some hypothesis, otherwise one would have to collect everything in the world when one came to the negative side of things. For, to take his favorite example, if one were investigating the cause of heat, one would first collect all the cases where heat is present and then all the cases where it is absent. But the latter, even when one selects only those which resemble the former, would be too numerous for collection and when collected could tell one very little. For how similar must they be to the former and yet not be the former? A little reflection will show that the method if carried out would give us (a) an instance, say, of a bar of iron hot and (b) an instance of it cold. The difference between them ought to be the cause (or "nature") of the heat. But the only difference is that one is hot and the other cold.

Bacon's conception of the purpose of science is not that of a discovery of causes so much as a discovery of "essential natures" or what he called "forms." This is the more surprising in that he believed himself to be a reformer and was really reviving the Socratic and pre-Socratic ideal of finding a *physis* in a number of similar things. This meant that the world was fundamentally a system—or, if not a system, a collection—of forms which were more or less obscured by their embodiments in Nature. (Why they should have been obscured was not clarified by Bacon, as it was more or less in the Neo-Platonists. But since they are obscured, the scientist must lay back their coverings and bring them into the light of day.) The real interest of science is in the world of forms which are discrete, unchanging, and independent of the conditions in which they occur. The world of man's experience thus splits in two for Bacon —into the world of forms or of science, and the world of deformation or of common sense.

The forms resemble Anaxagoras's qualitative atoms more than anything else, except that they do not blend into one another as the atoms did. They are, however, atomistic in that their relations to one another and to other things, are purely external, and a given form in one set of relations is the same as it would be in another. Thus, heat in a bar of iron is identical with heat in a cup of coffee.

But Bacon's formulations were not precise and it is not easy to tell what he did mean. His reputation, as we have said, is out of all proportion to his clarity and grew both because men forgot his predecessors and because he was an Englishman.

Of quite a different stamp was his younger contemporary and acquaintance, Thomas Hobbes (1588–1679). For

Hobbes was able to do what Bacon never attempted—to organize a system of thought which would start with physical nature and end with society.

English society, as everyone knows, began to grow troubled at the close of the Tudor period, and grew no more peaceable when the Stuarts came to the throne. The struggle, as we see it now, was one between absolutism and popular government, between luxury and simplicity, between the flesh and the spirit. The alliance between the demos and the spirit was somewhat new in European history; and if it had not been intermingled with the religious issue of Catholicism *vs.* Protestantism, which suggested foreign control over domestic affairs *vs.* home rule, it is doubtful whether the alliance would have arisen even then.

Hobbes was a man who owed his education and what social position he had to patronage, and he felt strongly that the old regime was the best. He became one of its strongest defenders and, in fact, wrote his great political treatises with an eye to the events which had ushered in the Commonwealth. What is interesting is that the kind of metaphysics upon which his views were based is nowadays popularly considered to be the natural basis not of monarchy but of the more "radical" programs, such as communism.

These views held that the universe is fundamentally particles of matter in motion and that the apparent existence of other things, such as minds, is misleading, if not illusory. The motion of the particles is inherent within them; and when they are at rest, their motion is conative—a concept which is analogous to the modern concept of potential energy. The particles of moving matter form constellations, some of which are our bodies. These bodies, when impinged upon by other bodies, are stirred in such a way that new motions result, which new motions are the immediate cause of our sensations. The sensations die down, as all motion does, or "decay," giving rise to imagination, and thought. But since we, observing the world, see colors, hear sounds, and so on, which are our sensations, it is clear that we never directly observe the world exactly as it is, but see it overlaid with a coating of what will later be called "ideas" or "phenomena," *i.e.,* "appearances." The world, then, really is moving bits of matter, but seems to be colors, sounds, and all the other details of sensation.

This separation of the world into what a later philosopher, John Locke, was to call its primary and secondary qualities, was originated in the work of Galileo, though the notion in ancient times goes back at least to Democritus. The value of the theory, first, was the greater simplicity it gave to the world, for it permitted us to think of matter as homogeneous, except in shape, size, and velocity; and, second, the explanation it seemed to afford for the occurrence of minds. By skimming the sensory qualities off the world, one was rid of the difficulties arising from attributing to Nature characters which were inconsistent. We know, for instance, that color varies with illumination and our distance from the colored object; that sound varies similarly with the observer; and we hesitate to say that a bell which in one position is loud and in another is soft, or a flower which here is red and there is gray, is both loud and soft, red and gray. We like to think of Nature as having within herself no contradiction, as being of a uniform and constant character. If we were to say the rose is red here and gray there, we should seem to be implying that color, like position, was a relative concept and therefore did not belong in the rose as such. The same would hold true of all observable qualities, and the "real world" would be the world of absolute qualities, *i.e.,* the world whose qualities did not vary with observers.

The question that naturally arises when a division of this kind is made, is, What is the nature of the secondary qualities? Are they simply matter, like the world of primary qualities, or are they different in kind? They are apparently different in kind in Hobbes, for they combine according to peculiar laws—what later become the laws of the "association of ideas." And he speaks of them with the contempt of a Democritus, as if they were illusions. Yet he elsewhere asserts that only matter exists and, like Tertullian, that even God is material. Of course, if one has two kinds of matter, one that which is studied in physics, which is ponderable and obeys the laws of mechanics, and the other that which is studied in psychology, which obeys laws peculiar to itself and excludes those of mechanics, it is obvious that the identity of name is but a cloak for disparity of existence.

In ethics and politics, motion is equivalent to human egoism. Hobbes here does to society what Galileo and his predecessors had done to matter, and to the individual man what Machiavelli had done to his Prince. He atomizes humanity into particles, all of which obey what will be the first law of motion: they keep moving in their own course until another particle bumps into them. Phrased ethically, man in a state of nature (*i.e.,* the social atom in free space) will obey only his own desires and, as human desires do not follow parallel lines, collision is bound to result. The state is like the solar system in that in it the paths of the individual atoms are kept fairly harmonious. As in Duns Scotus—whom Hobbes resembles in more ways than one—man finds a state of lawlessness, the constant colliding with his fellows intolerable, and hence enters into a compact for its relief. This compact implies a strong power to enforce it, to prevent the social atoms from flying off on tangents to their orbits. That power is vested in an individual—the king—whose decisions make law and whose law makes right and wrong. There is no right and wrong beyond the law and there is no law beyond the will of the sovereign. Thus Hobbes, for different reasons than those of their founders, revives the Scotistic and Machiavellian ethics and politics.

What he is really arguing against is the English revolution which rested upon a Thomistic basis of the eternal existence of moral values and their applicability to kings as well as to commoners. According to the Roundheads, kings could do wrong just as anyone else could; and being Englishmen—and therefore Protestants—they could not recognize an earthly power, the pope, into whose hands they could delegate the application of the eternal standards. Just as they wanted no mediation in religion between themselves and God, so in politics they wanted no mediation between themselves and the ends of human conduct. Regicide to them was as justifiable as any other kind of legal execution. To Hobbes, as to the Catholics after the French Revolution, it was like the Crucifixion.

If the Stuarts had their philosophic spokesman in a materialist, the Puritans had theirs in a group of Platonists. This group may be said to spring from Lord Herbert of Cherbury (1583–1648), a contemporary of Hobbes. Its members are usually called the Cambridge Platonists, though many of them did not live at Cambridge, and their Platonism is highly diluted with Hebraic and Christian elements. The group on the whole is united on the following points:

(1) in combating materialism and sensationalism;
(2) in being mystical;

(3) in tending, on the Plotinian analogy of emanation, to make sensation derive from concepts, rather than *vice versa.* This tendency is not completed until the later members of the tradition have written.

Herbert of Cherbury followed the Renaissance style of beginning philosophy anew. His main contribution to philosophy is in his book, *Truth as Distinguished from Revelation, Verisimilitude, Possibility, and Falsity* (1624), and consists in a theory of knowledge which contains in germ all that followed.

He divided the powers of knowledge into the following, arranged in order of decreasing certainty:

(1) *Natural instinct:* the source of our knowledge of the axioms of mathematics and natural science and the laws of logic. That things equal to the same thing are equal to each other, that every effect must have a cause, that a thing cannot be both this and not-this in the same respect and at the same time, are specimens of this kind of knowledge. Such knowledge is peculiar, in that it seems to be common to all mankind and is necessary for the elaboration of all other knowledge. One cannot reason without the law of contradiction; one cannot solve geometrical theorems without the axioms; one cannot develop science without some knowledge of cause and effect. We do not acquire such knowledge, however; it is part of our stock in trade with which we begin life. Lord Herbert did not mean that babies are occupied with mathematical axioms and the laws of thought, but that as soon as the human mind begins to think, it uses them. Where, then, did they come from, if they are innate? From God, said Lord Herbert, Who so constructed our minds that they are dependent upon these universally accepted principles.

(2) *Internal sense:* our knowledge of our emotions, our

hopes and fears and aspirations, pleasure and pain, the feeling of our personal unity, and all that range of knowledge which is shut off from the inspection of the public. To it is to be added the "common sense," that sense which tells us that the whiteness and the rectangularity both belong to the same visiting card, thus uniting sensory impressions which qualify a single object. Were it not for the common sense, our minds would be a stream of isolated impressions occurring one after another—some years later David Hume will say that that is exactly what they are—and the concept of a complex object would never arise. Knowledge by internal sense has a high degree of certainty. We usually know when we are angry or depressed or happy, though no one else may; yet it has not the certainty of natural instinct, for the latter is characterized by necessity and universality. It is over-individual, depending on the experience of no one man, agreeing with the experience of all. Much will be made of this fact in a later philosopher, Kant.

(3) *External sense:* the ordinary sense impressions of color, sound, odor, and so on. Its uncertainty is illustrated by the similarity of, say, a given color, as seen in a dream, in an image, in an illusion, and in a physical object. Inspection alone will never tell one whether a given color is real or illusory or imaginary. A red rose in a dream is just as red as one in waking life.

(4) *Reason:* the processes of inference, by which we pass from given premises to conclusions. Inference is always more or less shaky; and the farther removed the conclusions are from the premises, the more shaky it becomes.

It will be noticed that Lord Herbert, like Bacon, and, in fact, like Hobbes—though we did not discuss this side of Hobbes—is interested in discovering what knowledge is least doubtful. This is a problem which occupies the whole seventeenth century, for having definitely discarded the appeal to authority, it had to find a new basis of wisdom. It will also be noticed that the least doubtful knowledge is neither external experience nor reason, but a kind of inner light which is not even necessarily self-conscious.

The theory passes into ethics in the work of Ralph Cudworth (1617–1688), who belongs to the next generation, a contemporary of Cromwell and Milton. Cudworth was deliberately anti-Hobbesian, which Lord Herbert was not, because of Hobbe's determinism. It seemed to him that if all were really matter in this world, the laws of mechanics would hold good in ethics as well as in physics and that hence freedom to do or not to do would be impossible. A falling body cannot but fall in a certain direction and with a certain increasing velocity regardless of its wishes; so, too, an ethical body, as rigidly determined, would have to do whatever the situation demanded, regardless of its inclination. He raises further the question why the natural world, if made up of atoms moving independently of one another, shows any order and does not disintegrate, and answers it by invoking Plotinus's Soul of the World, a "plastic medium" which controls things and carries out God's designs; for Cudworth, in accordance with Neo-Platonic tradition, does not think of God as acting directly upon the world. The Soul of the World is duplicated in human beings by an inner light which is the source of judgment, welding impressions together—like the common sense—fanned but not kindled by external objects. In ethical matters it recognizes good and evil—though Cudworth is not very clear as to what good and evil are—and is analogous to the popular conception of "conscience." Like Lord Herbert's natural instinct, the inner light is independent of experience. We do not learn what good and evil are; we know what they are to begin with and go through life applying our knowledge. So in some of the Platonic dialogues, the soul descends to earth with a reminiscence of the eternal truths it has known in heaven.

This is clarified to some extent in Cudworth's friend, Henry More (1614–1687). In More the inner light is "an active sagacity of the soul" which reveals certain ideas, born within us, since they could not have come from experience. The innate ideas are as follows: first, mathematical conceptions; second, relative notions; third, complex notions. As the source of such ideas is even today an interesting question, and as it will play so large a part in later philosophies, let me give More's arguments.

Mathematical conceptions cannot come from experience, because experience falls far short of mathematical accuracy. No triangle in experience is a perfect triangle; no circle has all its radii absolutely equal. Again, in mathematics we deal with "any given number," "any right triangle," "the square of the sum of any two numbers"; but in experience we deal only with "this number," "this right triangle," "this sum." Whence comes the knowledge of "any"?

Relative notions are those of cause and effect, whole and part, like and unlike. These cannot come from the external world because all ideas externally aroused come from contact of material particles upon our sense organs. Thus the redness of a rose may be due to a physical object's impinging indirectly upon our visual end-organs. But that the redness is lighter or darker cannot come from such contact, for there is no matter which corresponds to the relation of "darker than." So, says More, suppose one have a pound of lead, cut into two halves; the halves are equal. But now cut one of the halves in two and throw away one of the pieces; the first half (uncut) has become double the remaining piece and yet no material change has occurred in it. It is materially the same piece of lead as before. Similarly, a given piece of matter may be in two contradictory relations to two other pieces; a pound of lead is twice half a pound and half two pounds. What material change has come about to make it both twice and one-half? So a man—this is not More's example—is both a son and a father, because of his relations to others. But materially he is the same man. Hence More concludes that relative notions cannot be impressed on our senses by matter, for there is no matter corresponding to them. And since there is only one other possible source, they must come from the soul. They are "the mere exertions of the Mind occasionally awakened by the Appulses of the outward Objects."[1]

Complex notions are necessary truths which are axiomatic. Those cited by More are: the whole is bigger than the part; equals subtracted from equals leave equals; every number is either odd or even. These are grasped as true "at the very first proposal, as anyone that is in his wits does plainly perceive."

This gives to the mind the power of creating mathematical concepts, relative notions, and axiomatic truths, and leaves in the non-mental world material particles which give rise to sensation and awaken our "active sagacity." The data of sensations (colors, sounds, odors, and so on) are themselves products of the physical world and hence would have no existence, were it not for its motion. But as the data of sensation are in themselves inarticulate and hence not truly knowledge, it is readily seen that for More the mind furnishes to cognition all except its subject matter.

But mentality also plays another rôle in More's philosophy. The Neo-Platonists in pagan times had a belief, which ran back to Empedocles, that matter was of itself inert and hence could not initiate motion. The world was divided into two realms, matter and spirit, of which the former was passive and the latter active; the former the object of change, the latter the agent of change. In accordance with their hierarchical metaphysics, there was no gulf between the two, but various things had various amounts of matter and spirit within them. This notion reappears in More—is, in fact, one of the reasons for the plastic medium in Cudworth—and leads him to expatiate upon the divisibility, impenetrability, inactivity and unconsciousness of matter, and the unity, penetration, activity, and consciousness of spirit. Spirit is not only active but it is autokinetic and thus becomes the unifier of Nature, its organizer, and the source of all its movement.

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[1] *Antidote Against Atheism,* ch. vi, p. 5.

The rôle of mind becomes still further enlarged in Richard Burthogge (1638–1694 ?). For in his writings, it not only relates and organizes, but creates its immediate objects. They become phenomena, to use language which Kant was to popularize a century later, produced by things whose real nature is unknown. More had maintained that these immediate data of consciousness were produced in our bodies but had not emphasized the fact of their mentality nor of the unknowableness of their source. On these two points Burthogge is definite. "All the immediate Objects of Humane Cogitation . . . are *Entia Cogitationis,* All *Appearances;* which are not *properly* . . . in the things themselves conceived under them, and consequently conceiv'd as if they had them, but so onely in the cogitative Faculties. No such thing as Colour but in the Eye, nor as Sound but in the Ear, nor as Notion, Sense, or Meaning, but in the Minde. These, though they seem in the *Objects,* and without the cogitative Powers, yet are no more in *them* than the

Image that seemeth in the Glass is there indeed." [1] Not only is this so, but the very categories—or "notions," as he calls them—of the understanding, such categories as "whole," "part," "cause," "effect," and so on (More's relative notions), "are only entities of reason conceived within the mind, that have no more of any real true existence without it, than colors have without the eye or sounds without the ear." [2]

Yet the cause of knowledge, though unknowable, is still external to us, and is matter. This leads us over to Arthur Collier (1680–1732). In 1713 was published his *Clavis Universalis: or, a New Inquiry after Truth. Being a Demonstration of the Non-Existence, or Impossibility, of an External World.* He does not mean to suggest by this title that what we see does not exist, but that it does not exist externally, or independently of mind. His proof consists first in showing that the visible world is not external, and next in showing that the very idea of an external world is self-contradictory.

That the visible world is not external he tries to prove in this manner. First, the apparent externality of vision is no evidence of real externality, for things seen in a dream or in vivid imagination seem as external as things seen in normal vision. Second, he proposes certain experiments, such as pressing the eyeball and thus producing two images, both or neither of which must be external. For there is no more reason why one should be external rather than the other. These are fortified by a comparison of what one sees and what tradition assigns as the cause of the vision. The visible moon, for instance, is bright, small, flat, sometimes semicircular or crescent-shaped; whereas the moon itself is dark, large, spherical. Can two things so different be the same? Obviously not, and the visible moon is therefore not the real moon. But if we forget the supposititious real moon and cling only to the visible moon, it is obvious that it cannot be external, for its being depends on its being perceived. "Is there any other possible way of *seeing* a thing than by having such or such a thing *present* to our minds? And can an object be *present* to the mind, or visive faculty, which is affirmed to be *external* to it?"[1]

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[1] "Organum Vetus et Novum," in *Philosophical Writings of Richard Burthogge,* ed. by M. W. Landes, Chicago, 1921, p. 12.

[2] *Ibid.,* p. 75.

Collier proceeds to his proof that an external world is impossible, by pointing out that if it existed it would be invisible and hence, since "invisible" is for him synonymous with "insensible," unknowable. Therefore it ought never to be discussed and ought to be admittedly inexistent. For can the unknowable exist? There is no telling. For if one knew it to exist, it would not be unknowable. Again, why should God have made an unknowable world? It would be useless; and as God, as all-wise, could not make a useless thing, He could not have made it. Collier then went on to argue that as the external world has been proved to have contradictory characters, to be both infinite and finite, to be infinitely and finitely divisible, to contain and not to contain motion, it is presumably neither.[2] The proofs on the one side are as good as the proofs on the other, which is to be expected since it is unknowable. But since it must be either, if it exists, it does not exist. The remaining arguments are of the same nature, and we shall not examine them here.

The Platonic strain which we have been tracing in English philosophy, so unlike the Plato of the dialogues, was paralleled by Platonism in English poetry. But the earliest Platonistic poets, Edmund Spenser, for instance, were not so much interested in a theory of knowledge as in certain Platonic myths or in the Platonic theory of love of beauty. Such poems as Spenser's "Hymn to Love" and "To Beauty" are shot through with Platonic imagery, but it is doubtful whether the poet understood the metaphysics which the imagery was originally supposed to illustrate. Such, too, was the practice of his followers; and in Sir John Davies's "Orchestra," we find the strain highly colored with Pythagorean dyes. Henry More coupled his philosophic prose with philosophic poetry, and in Donne and the Metaphysical Poets there is a heavy Platonistic charge. In fact, their very use of abstractions as objects of metaphor seems Platonistic in the concrete reality with which it seemed to invest them. To the Metaphysical Poets an idea was as vivid as a physical thing, and much more captivating. This is no place to trace Platonism in English poetry; we can merely note its presence and pass on. The Dialogues in the seventeenth century were perhaps second only to the Bible in furnishing images, conceits, and ideas to English poets, some of whom may have been no more conscious of their origin than the writer who quotes, "God tempers the wind to the shorn lamb," and thinks that he is citing Scripture.

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[1] *Clavis Universalis,* ed. by Ethel Bowman, Chicago, 1909, p. 35.

[2] The reader is requested not to forget this trait of the unknowable world, *i.e.,* that contradictory things can be proved about it. It will recur in Kant.

The question still remained of how these sensations arose in us if there were no external world to cause them. And that question was most carefully handled by Bishop Berkeley (1685–1753), whose position was so close to that of Collier that they must both be credited, like Leibnitz and Newton, Darwin and Wallace, with being joint fathers of the same theory. But for reasons which will be clearer later, instead of going on to Berkeley now, we shall return to a man of an earlier generation who continued the Hobbesian tradition rather than the Platonistic.

This man was John Locke (1632–1704), who, born under Charles I, lived through the Commonwealth, the Restoration, the dethronement of James II, the reign of William and Mary, to the succession of Anne. These were stirring years when one might say more truly than at most times that the turn of events was decisive for the future. The turn was a rejection of the Hobbesian theory of absolute government and, interestingly enough, Locke has come down to us as one of the great spokesmen of the democratic ideal.

But in another field, civilization had been equally stirring. I refer to the field of science. Locke's greatest contemporary was Sir Isaac Newton (1642–1727), whose presentation of his scientific inheritance in mathematical form determined what the natural world would seem like for the next two hundred and fifty years. What was the most impressive feature of the Newtonian physics was not details of gravitation, but the fact that one set of mechanical laws held good throughout the observable universe, and that these laws were mathematical. This had been said before, but it had never been proved. It meant that nothing in the universe—as far as anyone guessed—was beyond the ken of any human being. Mysteries seemed to disappear and the world took on an amazing and simple beauty and order. Newton, however, not only gave men a picture of the world, he gave them a way of thinking, and from then on when one wished to treat things rationally, without superstition or religious prejudices, one was a Newtonian. Newton became a synonym for the new liberal spirit in science and religion, though his own views on non-scientific subjects were anything but liberal.

In the field of literature and the other arts, the change was equally impressive. The vigor and exuberance of the Elizabethans, the evangelical piety of the Puritans, gave way to the clear and unimpassioned intelligence of Dryden, Pope, and their followers. We who have been fed on the so-called "romantic" poets are inclined to sneer at what we call the coldness of these writers, as if coldness were a blemish. It is not coldness which is their fault; it is optimism. Nothing could be more lifeless and dead than much of Byron, wild and feverish as it is. For what has it to say to men of our day that the verses of a Pope have not? In the main, the arts of the past have an historical interest, as expressions of temperaments like or different from our own. Few, in spite of our pretentions to admire them, would be taken in exchange for those which are produced today. For the value of any work of art is to be measured by what it has to say to its own contemporaries, and those works which we call "eternal" are those which are better fitted for our own time than for their own. The poets of the age of Dryden and Pope were the incarnation of the scientific spirit of their time. They helped make the time what it was by submitting to its innovations. They fixated, so to speak, in art the ideals of its men of science.

Locke was without doubt the official philosopher of this age. There were other philosophers, as we have seen; but the dominant spirits of the time turned to him for inspiration, as in earlier times they had turned to Saint Thomas or Saint Augustine or Plotinus or Aristotle. He became the philosophical pontiff over whose bridges the world must pass to truth. His main work revealed his purpose in its title, *An Essay Concerning Human Understanding*. He was to analyze more thoroughly than his predecessors the roots of human knowledge, for, he was convinced, until that was done vain discussions would seduce the mind—vain, because they would exceed the limits of our intellectual gifts. He was not interested in discovering whether the mind depended on matter or not, nor how sensations arose in the human organism, nor in any other strictly metaphysical question. His one interest was in illuminating knowledge, how it was acquired, how certain it was, how restricted it was.

His first inquiry was into the origin of ideas, as he called "the object of the understanding when a man thinks." And he first attacked the theory of Lord Herbert and his disciples, that some of these bits of knowledge were innate. The two kinds of ideas, it will be recalled, which the English Platonists were agreed in thinking of as innate were certain logical and ethical principles. Locke maintained that if they were really innate all people would believe in them or at least be aware of them. But neither children nor idiots nor savages nor the illiterate show any knowledge of innate logical principles and, as their minds are presumably innocent of and hence uncorrupted by education, they ought above all to show them. In the same way, there are no innate moral principles, for none are universally received. "View but an army at the sacking of a town, and see what observation or sense of moral principles, or what touch of conscience for all the outrages they do. Robberies, murders, rapes, are the sports of men set at liberty from punishment and censure. Have there not been whole nations, and those of the most civilized people, amongst whom the exposing their children, and leaving them in the fields, to perish by want, or wild beasts, has been the practice, as little condemned or scrupled, as the begetting them? Do they not still, in some countries, put them into the same graves with their mothers, if they die in child-birth; or dispatch them, if a pretended astrologer declares them to have unhappy stars? And are there not places where, at a certain age, they kill, or expose their parents, without any remorse at all?"[1] If such differences and more in moral practice can prevail, Locke wonders where the innate moral principles show themselves. He backs up this argument with an examination of the list of propositions which Lord Herbert had declared to be innate. Such propositions are that a supreme deity exists, that He ought to be worshiped, that virtue united with piety is the best manner of worshiping Him, and so on. Locke believes them all to be true, but denies their innateness, since here again they neither are universally accepted nor even understood in the same way by all.

Since principles—or propositions—are assertions about ideas, Locke next examines ideas, to see if any of them may be said to be born within the mind. He takes the idea of God—not the "principle" that God exists—as an example, and finds that there are some nations who have no such idea. Either such people are not human, or the idea is not innate. But if the idea of God is not innate, no other idea is, for it is unlikely that God would have implanted some other within us rather than one of Himself.

Whence, then, do our ideas come? Our ideas, to repeat, are whatever the "mind is applied about whilst thinking,"[2] and we think about things which come either from sensation or from reflection, both composing what Locke calls "experience." Sensation is the origin of such ideas as we have of yellow, white, hard, soft, heat, cold, "the sensible qualities." Reflection consists of the processes of perception, thinking, doubting, believing, reasoning, etc., which concern the operations rather than the subject matter of our minds. All ideas, then, arise either from the external material objects which are the objects of sensation, or from the operations of the mind. We have thus two worlds, the external and the internal; our ideas come from these two sources and from these two sources alone.

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[1] *Essay,* Bk. I, ch. iii, sec. 9.

[2] *Idem.,* Bk. II, ch. i, sec. 1.

The ideas themselves are of two kinds, simple and complex. Simple ideas are what Locke calls "uncompounded appearances"—whiteness, for instance, or softness—and have within themselves no diversity. They are atomic and externally related to one another. They come into the mind through both channels and come in regardless of the will. We, looking at a rose, cannot but perceive its color, nor, if we have not seen its color, could we invent it. These ideas are fundamental and the whole mosaic of knowledge is built up of them. Some of them arise from one sense alone, like the various colors; others from more than one, such as extension, shape, rest, and motion; others from reflection, such as perceptions and volitions; others from both sensation and reflection, such as pleasantness and unpleasantness. What this indicates is the fact that we derive ideas of color from sight alone and cannot hear or feel it. But one can either see or feel the shape of a thing. Again, reflection alone can tell us what we desire; but a sensation or a thought may be pleasant or unpleasant.

Some of the simple ideas correspond to certain properties of external objects, and these properties Locke calls "qualities." Colors and odors, for instance, are a case in point. We perceive them as ideas but attribute them to objects which are physical. Produced in us, they are called secondary qualities and, as in Hobbes, Galileo, and the Democritean tradition in general, are not objective but are solely the effect made upon our minds by objects. Objects, however, have another set of qualities which are called primary. They are the properties which any bit of matter must have in order to be a bit of matter; they are the properties used in mechanics: solidity, extension, shape, motion, and number. Any piece of matter will be solid, extended in space, of some shape, and of some degree of mobility, and will be one rather than two. Such qualities are reproduced in us by our simple ideas of them and produce in us the ideas of the secondary qualities. Thus the world—as for Hobbes—was the world of mechanics producing by impact the qualities which find no place in mechanics. But why the primary qualities should now reproduce themselves in our minds, now create the ideas of the secondary qualities, Locke did not explain, speaking at times as if there were in the object some unknown properties corresponding to the secondary qualities, at other times as if there were nothing there at all.

There is a third sort of quality, which does not figure largely in the *Essay,* "the power that is in any body, by reason of the particular constitution of its primary qualities, to make such a change in the bulk, figure, texture, and motion of another body, as to make it operate on our senses differently from what it did before. Thus the sun has a power to make wax white; and fire, to make lead fluid. These are usually called powers."[1]

So much for simple ideas. Complex ideas are made "by an act of the mind" out of simple. Acts of this sort proceed in three ways: (1) by combining several simple ideas into a complex one; (2) by putting two ideas side by side and relating them; (3) by abstracting them from their accompaniments in real existence. Examples of complex ideas are beauty, gratitude, a man, an army, the universe. Locke's thesis is that any idea, no matter how abstract or complex, can be decomposed into the simple ideas from which it was originally built up and can be classified under the heading of either modes, substances, or relations. Modes are ideas of things which are dependent on other things for their existence; a color is a mode since it is only found in a colored thing. They are "modifications"—whence their name—of self-dependent things, which he calls "substances" and which we should probably call today "particulars." Substances are particular things, such as this man or this book. A mode of the man would be his anger; of the book, its weight. Thus the man could exist without the anger but not the anger without the man—it is the problem of the Cheshire cat and his grin. The book might change its weight by wear and tear, but weight would always be found in some physical object or other; never floating by itself. Relations are (probably) indefinable; they are exemplified by such things as "larger than," "equal to," "father of," and all of the transitive verbs.

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[1] *Idem.,* Bk. II, ch. viii, sec. 23.

Such is the analysis of knowledge, and from it will spring the Associationist psychology in England and what was known as Ideology in France. Both of these sciences spent their time analyzing ideas, and in France it was even proposed that such analysis supplant logic in the schools. It is probably the source of the psychological novel in France, and is certainly at the base of what Rémy de Gourmont called the "dissociation of ideas." It becomes an educational program and, curiously enough, the emblem of the liberal movement in politics.

But its subsequent history will appear later; and now we must turn to the other side of John Locke,—namely, the side which appeared in the fourth book of the *Essay* and had to do with the certainty and truth of knowledge. Since knowledge was always of things through ideas and never of things directly, it was clear that the procedure of knowledge must center about the interrelations of ideas. These interrelations will be those of agreement and disagreement. Thus the ideas of white and black disagree, and we know that white is not black. When we say that a perpendicular dropped from the apex of an isosceles triangle bisects the base, we perceive the agreement between the idea of the bisected base and the idea of the perpendicular dropped from the apex. Such agreement may be identity, relation, coexistence in the same object or necessary connection, or real existence. Identity and diversity are perceived as soon as the mind perceives any idea; one recognizes it for what it is and one differentiates it from all others. This self-identity of ideas is intuitive and not inferential. One knows white for white and black for black—though one's attribution of these colors to objects may be erroneous. Relation is perceived as intuitively and thus is not the result of an act of mind, as the English Platonists maintained. A glance tells whether one color looks brighter than another; no mistake is possible. Coexistence in the same object is the phenomenon of knowing that the white color and the rectangularity and the stiffness are in the same visiting card though how we actually unite these separate ideas into one object Locke, no more than the Platonists, explains. Real existence is the knowledge we have that our ideas are of objects existing independently of us. Locke's example is our idea of God.

But though knowledge in general consists in the perception of the agreement and disagreement of our ideas, it is of different degrees. Some is intuitive: the difference between black and white, between a circle and a triangle, the relative greatness of 3 and 2. This is the clearest and most certain knowledge and is open to no doubt. It arises without the intervention of any other idea. It is, moreover, the basis of all certainty in the other degrees of knowledge. Less certain is demonstrative knowledge, a result of proof through logical steps, from a state of dubiety to a state of relative certainty. The process is fortified at each step by the use of intuitive knowledge.

If this be the nature of knowledge, what is its extent? First, it extends no farther than our ideas; second, no farther than we can perceive their agreement or disagreement; third, only a small portion of our ideas can be intuitively grasped and hence only a small part of our knowledge is certain; fourth, demonstration is limited by our ability to intuit the connection between our ideas—in other words, we cannot prove everything. Sensation, fifth, is narrower than either intuition or demonstration—being a species of intuition. Therefore the extent of our knowledge is not even so great as the extent of our ideas; we have more ideas than we have knowledge. Many things will exist of which we have no ideas; some ideas which we have, we find no connection between; and when there is a connection, we are often too lazy or indifferent to trace it out. Ignorance is thus often our lot.

Yet we are not entirely ignorant, for sometimes there is not merely an agreement between our ideas but between our ideas and things beyond them. All simple ideas, for instance, agree with things—not that they are in the things but that they are functions of some "power," or, as we should say today, of some property in them. Second, all complex ideas, except of substances, are real, for they are not supposed to refer to anything beyond themselves. Substances are excepted, for they are obviously supposed to be the originals after which the ideas are made. The idea of a centaur, for instance, to be real would have to conform to a real centaur, but the idea of a triangle cannot be tested in this way. For no real—or physical—triangle is or could be the standard of a mathematical triangle, for the simple reason that the sides of no real triangle are mathematically straight nor is the sum of the angles equal to 180°. On the contrary, in mathematics as in ethics, the real things are expected to live up to the demands of the ideal, so that our complex ideas here cannot mislead us. These ideas do not fall short of reality; reality falls short of them. Thus their truth is their consistency and not their agreement with objective fact.

Ideas of substances are different. They are, as we have said, supposed to correspond with their originals and, for one reason or another, they may not be true copies of them. So far as such ideas do correspond, they are true; but in so far as they do not, they are false. Thus, if I have an idea of Abraham Lincoln as a stout, stocky, white-haired gentleman with mutton-chop whiskers, my idea is in so far false, as the real Abraham Lincoln was neither short nor stocky nor white-haired nor bewhiskered. Such accuracy will never be very extensive, Locke gloomily observes; but wide or narrow, it is what true knowledge is.[1] Truth then arises when our ideas are such as are capable of existing in nature; falsity, when they are not. That this is difficult to determine, Locke admits; and indeed, he believes that in the case of universal propositions, only those which deal with our own ideas are ever true. Those which deal with Nature are only more or less probable. That he was satisfied with probable knowledge was typical of the man, and the source of much of his influence. For people had had the impression that only the mathematically certain was worth while.

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[1] It will be objected that I have overlooked Locke's distinction between real ideas and true knowledge. The distinction was made to be overlooked. *Vide Essay,* Bk. IV, ch. v, sec. 8.

Locke's push in the other direction was an impetus toward greater liberality, so that later men could even declare the certain to be beyond our reach without leaping into absolute scepticism.

But it seemed to some people that Locke not only made truth difficult but impossible to detect when present. For if we know only our own ideas, it is clear that we could never compare them to fact. Yet such a comparison is needed if we are to establish the truth of some of our ideas, *viz.,* those of substances. The criticism has been made of Locke that he gave his readers a theory of truth but no means of verification. This is only partly true. He gave no means of absolute verification of our ideas of substances, but for other ideas he gave us consistency. Yet that side of his theory was in general overlooked, and he survived in history as an empiricist who knew no way of getting at experience.

The care and precision of Locke's analysis, the simplicity of his argument, and the general reasonableness of his point of view made him the leading philosopher of his time. He seemed to have done for the human understanding what Newton had done for the cosmos, robbed it of its mystery and articulated its problems in terms of everyday life. Just as the movements of the planets in Newton were seen to be simply cases of falling bodies, so the operations of the reason in Locke were seen to be simply the combination by the mind of ideas which originated in sensation and reflection. But he also became the spokesman of the left wing in philosophy, and prelates—who naturally wished to see God's hand in as much of human life as possible—were inclined to look upon him as a destroyer of the faith. Locke himself not only believed in God, the existence of the soul, and a number of other edifying tenets, but declared that, "It is as certain that there is a God, as that the opposite angles, made by the intersection of two straight lines, are equal."[1] But his insistence that all ideas came from "experience" (though it is clear from the fourth book that some of them are controls of experience and not copies of it) made it impossible for any of them to come from authority. The issue between Locke and his opponents became very quickly the issue between what was later called in France reason and authority, and Locke was on the side of reason. This seemed to the authoritarians to rob clerics of their means of livelihood, for it robbed them of the *raison d'être*.

A generation and more after the birth of Locke was born George Berkeley (1685–1753), who, though destined to be a bishop, was to see in the Lockean philosophy a basis for the doctrines which philosophic Christians had always cherished. Berkeley came to philosophy with a firm grounding in Newtonian physics and mathematics, and the use he made of Locke is characteristic of a mind which follows an idea whither logic leads. He had at the age of twenty-four written a proof that the eye does not immediately perceive distance but infers it entirely from "experience." It is inferred, not given. This was based upon Locke's thesis that the mind knows only its own ideas and that inference is too uncertain to be philosophically trustworthy. It was also directly to suggest that our visual ideas are not located in independent space but are, as the popular phrase puts it, "in the mind."

If the mind knows only its own ideas, it can obviously never know the things of which they are ideas. These things were believed by Locke to be material substances—that is, particulars "underlying" their perceptible qualities.

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[1] *Essay,* Bk. I, ch. iv, sec. 16.

The properties of this substratum were similar to the ideas of the primary qualities. But, said Berkeley, an idea can only resemble an idea. A color cannot be like something invisible; a shape cannot be like the amorphous; hardness cannot be like the intangible. Hence he concluded that whatever properties matter could be found to have, would be perceptible properties and hence—since what is perceived is an idea—would be ideas.

In the second place, it is clear, he maintained, that the reasons for believing the secondary qualities to be mental apply with equal force to the primary. Extension, shape, and motion are inconceivable apart from something extended, shaped, and moving. But when that something is put back into them, it is found to be an idea. For what would be an intangible and invisible shape? Merely a word. So with extension and motion: unless they are visualized, they are merely concepts. Again, such degrees of extension and motion and shape as "great" and "small," "swift" and "slow" are relative and therefore—here a Platonistic streak shows itself in Berkeley—mental. Number is above all mental since its relativity is preëminent. "The same extension is one, or three, or thirty-six, according as the mind considers it with reference to a yard, a foot, or an inch."[1] Since a non-mental thing would presumably have to have absolute qualities, number cannot be non-mental.

In the third place, all qualities—primary as well as secondary—vary with the observer. Sweetness, a secondary quality, is admittedly subjective, because a given object varies in sweetness, as in color or odor or touch, with the person perceiving it. But an objective thing cannot be both sweet and not sweet; therefore its possession of contrary qualities is due to the perceiver. Therefore it is mental. The same argument, however, applies to motion and the other primary qualities. The speed of a moving object is a function of the speed of our, say, visual ideas of it. If they succeed each other in rapid succession, it will be said to move rapidly; if not, more slowly. To take a modern example: if a person in a train fix his eyes on the window sill, the landscape will seem to move rapidly backward; if he fixate an object in the landscape, he himself will seem to move forward. Distant things move more slowly than near things. Things moving in our direction with our velocity seem to be stationary. The physical objects themselves cannot be thus qualified; they must be either moving or not moving, either moving this way or that. But what we observe is thus qualified. Therefore what we observe is relative to us (be the properties secondary or primary), and hence subjective.

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[1] *Principles of Human Knowledge,* § xii.

But the physical object underlying the perceptible properties, what of it? It is, says Berkeley, inconceivable, for whenever anything is known about it, it is known in terms of ideas. But the ideas are not physical. Therefore the physical thing inevitably eludes our knowledge and, being unknown and unknowable, had best be dropped out of philosophy altogether. Unthinking matter, as he calls it, does not exist because it is inconceivable. So for Zeno the Eleatic, motion did not exist because it was inconceivable. Neither Berkeley nor Zeno stopped to wonder whether something might not be amiss with their powers of conception, and that if they were led to a result which seemed to violate common sense, whether there was not something faulty in their premises.

The fundamental premise for Berkeley was what has been called by Professor Ralph Barton Perry the "ego-centric predicament," a result of his assumption that the mind can know only its own ideas. This is the predicament of one trying to imagine something unknown.

> But, say you, surely there is nothing easier than to imagine trees, for instance, in a park, or books existing in a closet, and nobody by to perceive them. I answer, you may so, there is no difficulty in it: but what is all this, I beseech you, more than framing in your mind certain ideas which you call *books* and *trees,* and at the same time omitting to frame the idea of any one that may perceive them? *but do not you yourself perceive or think of them all the while?* this therefore is nothing to the purpose; it only shows you have the power of imagining or forming ideas in your mind; but it does not show that you can conceive it possible the objects of your thought may exist without the mind: to make out this, *it is necessary that you conceive them existing unconceived or unthought-of, which is a manifest repugnancy.* When we do our utmost to conceive the existence of external bodies, we are all the while only contemplating our own ideas. But the mind, taking no notice of itself, is deluded to think it can and doth conceive bodies existing unthought-of or without the mind; though at the same time they are apprehended by or exist in itself. A little attention will discover to any one the truth and evidence of what is here said, and make it unnecessary to insist on any other proofs against the existence of material substance.[1]

This seems to leave the world as the panorama of our ideas, to rob it of all stability, and to put it at the mercy of our senses. But Berkeley is far from believing that the world is an unstable, flickering projection of the human mind. On the contrary, though the external world is not material, nevertheless it is as subject to law as any material world ever was, nor is it our own creation. For when we open our eyes, we cannot but see; confronted with any object, we cannot but perceive. If the world were entirely subjective, it would be under the control of our will, as the modern Berkeleyans—the Christian Scientists—seem to believe. But it is not under the control of our will. What, then, is the cause of our ideas? Why do we have them?

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[1] *Principles of Human Knowledge,* § xxiii.

The Lockean answer was that they were an effect of material objects upon us. But Berkeley has shown that there are no material objects. Hence the cause of our ideas must be mental. And the one mental being whom tradition recognizes is God. God, then, is that being not ourselves who causes our ideas to rise in us.

Thus the world is made up of a community of perceiving minds—or spirits, as Berkeley called them—whose function is to entertain ideas. They are substances, "simple, undivided, active beings," which are known only by their effects. We have no ideas of them; we cannot have ideas of them, for ideas are passive and they are active (the old Greek formula that only like knows like). This is rather amazing, for Berkeley has already argued that if one cannot have an idea of a thing, the thing is as good as nonexistent and has thus abolished material substance. Moreover, if God is an active spiritual substance causing our ideas, we cannot have an idea of Him either; and one would imagine Him to be no more favorably situated for being known than matter. Again, Berkeley makes a point of the regularity and recurrence of our ideas as evidence of their divine origin, and seems to forget that earlier in his treatise he has argued to their subjectivity from the fact that they vary with us and not with something external.

The point suddenly dawns on one that Berkeley is not so much interested in the theory of knowledge as in opposing sceptics and atheists. He feels very definitely that his theory makes Christianity more secure since it makes mind the only efficient cause of things, shows the whole of creation to be the work of a "wise and good agent," reveals

God's goodness, and so on. This locates Berkeley in the same tradition as that of the English Platonists and it is not surprising that as he grew old, a clearer Platonistic strain emerged in his writings. It is most definite in the *Siris,* a modern *Timæus,* which, beginning with reflections upon the virtues of tar water as a panacea, does not end until spiritualism is fully vindicated. It illustrates the "chain of being" whose earliest philosophical expression was found in Plato. In this treatise the theory is definitely expressed that natural objects are really ideas in the mind of God, but ideas in the Platonic sense, that is, Eleatic archetypes of sensible things. Our own ideas are but poor images of them; "the most refined human intellect, exerted to its utmost reach, can only seize some imperfect glimpses of the Divine Ideas, abstracted from all things corporeal, sensible and imaginable." [1] But now, if this be the true Berkeleyan position, we are no better off than we were in Locke or Hobbes, for reality is as far from our grasp and God's mind becomes as unattainable as matter.

The difficulties of the Berkeleyan philosophy arise from its author's failure to be more logical than pious. No such failure attended the thinking of David Hume (1711–1776), who carried the destruction of Lockeanism one step further. Berkeley had got rid of material substance; Hume gets rid also of spiritual.

The basic premise of Locke and Berkeley, that we can know only our own ideas—by which they mean in practice that knowledge of our own ideas is alone certain—is accepted by Hume. His two predecessors had also distinguished between ideas of reflection and those of sensation. Hume makes an analogous distinction, but his terminology is different and the kinds of cognitive data differ only in degree, not in essence. They are called impressions and ideas, the former whatever we are conscious of in sensation, passion, and emotion: colors, sounds, pleasure, pain, anger, uneasiness, and the like; the latter, faint images of these which appear in thinking and reasoning. Thus we see a color and it is vivid; we think of it and its vividness is less intense. We bruise a finger, the pain is sharp; we remember the pain and it is milder. The only difference between the pain as felt and the pain as remembered is its acuteness.

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[1] *Siris,* sec. 337.

Impressions and ideas taken as a group are called "perceptions." These are both simple and complex. Simple perceptions (impressions and ideas alike) have no parts. Thus, redness is simple because, whether seen or thought of, it is completely undifferentiated. It admits, as Hume says, "of no distinction or separation." Complex perceptions are the contrary of these, being made of divers simple perceptions. Thus a rose—whether seen or thought of—is a complex of a certain color, odor, shape, and so on. It is next discovered that whereas simple impressions are reproduced accurately but less vividly in their corresponding ideas, the same is not true of the complex. For there are many complex impressions, like those of a song or a city or a speech, which are seldom accurately reproduced in idea, and there are many other complex ideas (those of fiction, for instance) which correspond to no impression at all as a whole, though their parts in the last analysis will.

A true idea will be one which accurately reproduces an impression. If one cannot find an impression corresponding to an idea, one knows that the idea is fictitious. But two ideas, then current in philosophy and fairly basic, seemed to be in that position. They were the ideas of substance and of causation.

If substance be a valid idea, it must come from an impression of sense or of reflection. But it cannot come from sense because, if it did, it would be color, sound, taste, or the like. And if it came from reflection, it would be either a passion or an emotion. But it is neither. Therefore it corresponds to no impression. It is "nothing but a collection of simple ideas, that are united by the imagination, and have a particular name assigned them."[1] This reasoning had already been applied by Berkeley to matter, but he had left the self as a spiritual substance.

Accordingly Hume applies himself with more vigor to the idea of the self, to see whether he has any definite image of it. It is obvious that according to definition there could be no impression of it, since it is not any one impression, but that which "has" the impressions. And since the self is supposed to preserve its identity through time, so that a man is fundamentally the same yesterday, today, and tomorrow, the impression which would correspond to it would have to be thus stable. But no impression is constant and invariable. They all come and go, one succeeding the other; and, as post-Humean psychology has found, only one impression can hold the attention at any one moment. Besides the theoretical impossibility of an impression of the self, Hume points out its actual absence in introspection in a passage which has become a classic.[2]

> But further, what must become of all our particular perceptions upon this hypothesis? All these are different, and distinguishable, and separable from each other, and may be separately considered, and may exist separately, and have no need of anything to support their existence. After what manner therefore do they belong to self,

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[1] *Treatise of Human Nature,* Bk. I, pt. i, sec. 6.

[2] Miss M. W. Calkins is a contemporary anti-Humean who, in her various books on psychology, points out that her introspection reveals a self perceiving data.

> and how are they connected with it? For my part, when I enter most intimately into what I call *myself,* I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe anything but the perception. When my perceptions are removed for any time, as by sound sleep, so long am I insensible of *myself,* and may truly be said not to exist. And were all my perceptions removed by death, and could I neither think, nor feel, nor see, nor love, nor hate, after the dissolution of my body, I should be entirely annihilated, nor do I conceive what is further requisite to make me a perfect nonentity. If any one, upon serious and unprejudiced reflection, thinks he has a different notion of *himself,* I must confess I can reason no longer with him. All I can allow him is, that he may be in the right as well as I, and that we are essentially different in this particular. He may, perhaps, perceive something simple and continued, which he calls *himself;* though I am certain there is no such principle in me.
>
> But setting aside some metaphysicians of this kind, I may venture to affirm of the rest of mankind, that they are nothing but a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement.[1]

This leaves the world a stream of impressions and ideas possibly linked together by causal relations. But Hume must now examine our idea of causation. This idea cannot arise from any quality of objects, since any object may be a cause and it is not likely that any quality is shared by all objects. Therefore it must arise from some relation between objects. And upon examination it turns out that objects which are related as cause and effect must be contiguous and successive—the cause must precede the effect in time—and finally the connection between the two must be necessary. That is, it must be believed that if the cause is found, the effect will necessarily follow. Contiguity and succession are common to all our ideas; we do not read causality into them, however. So that it is the idea of necessary connection which is important. But, says Hume, whenever two impressions succeed one another frequently, the idea that they must be so arranged arises. We believe whatever we are used to believe to be necessary as, to make up examples of our own, a child believes the customs of his family to be universal laws of society, and an American is shocked by the differences between European manners and those of his native land. So we do not call the abnormal simply "unusual," but "perverse" and "unnatural." Constant recurrence makes ideas livelier until they take on the intensity of impressions, and hence we believe more strongly in the reality of what we are accustomed to than in that to which we are unused. The necessity of the causal sequence is projected into it by us—but who are we, according to Hume?—and does not subsist in "nature." So we speak of a chair's being comfortable when it is really we who are comfortable in the chair.

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[1] *Treatise,* Bk. I, pt. iv, sec. 6.

In this manner the Humean world would seem to be just the succession of impressions and ideas as they happen to occur. But we must guard ourselves against maintaining that Hume really believed the world to be without matter and without mind. For he is careful to distinguish between the existence of things and our reasons for believing in their existence, and he is aware that what he is discussing is the latter. It is one thing to prove that a thing does not exist and another to prove that our reasons for believing in its existence are bad. But our reasons may be bad because we are starting with bad premises to prove its existence, or have made false inferences from true premises. Hume is inclined to believe that the human mind is so constructed that it can never find the proper premises. "Thus the sceptic still continues to reason and believe, even though he asserts that he cannot defend his reason by reason; and by the same rule he must assent to the principle concerning the existence of body, though he cannot pretend, by any arguments of philosophy, to maintain its veracity."[1] In other words, he grants us the right to believe in the world of common sense by faith, if not by reason.

The importance of Berkeley and Hume was not recognized in their own time. Berkeley was considered somewhat of a crank whose views no sane man would dream of treating seriously, even for purposes of refutation. Hume's *Treatise of Human Nature* "fell dead-born from the press" in his own well-known words, and he was known to his contemporaries rather as an historian and moralist than as a metaphysician. Yet from Berkeley sprang one of the most influential schools of the nineteenth century, and from Hume one of the most influential of the twentieth—the schools of German idealism and Neo-Realism, respectively.

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[1] *Treatise,* Bk. I, pt. iv, sec. 2.

Chapter VII

FRANCE AND HOLLAND UNTIL 1800

THE center of mediæval philosophy had been Paris; and that very strength had given to Paris a position of secondary importance during the years when the revolt against mediævalism was being formulated and disseminated. For it made it the capital of reaction and the stronghold of the old wisdom. Scholasticism continued to be taught there and, when the Sorbonne was founded, it became a powerful force against innovation.

Accordingly, the important French philosophers between the fourteenth and seventeenth centuries are very few. One has a Montaigne (1533–1592) whose scepticism is in keeping with that of the humanists of Italy, a lover of the ancients, full of repugnance for dogmas. His one belief was that literature can express its author's nature at any rate, and his many essays are perhaps the most perfect revelation of the gentleman in philosophy that we have. He had the scepticism not of the mocker but of the inquirer. But he eludes all classification, having established and not followed a *genre*. His admirers were many and he was succeeded, so to speak, by his friend Pierre Charron (1541–1603), François de la Motte le Vayer (1586–1672), Samuel Sorbière (1615–1670) who translated Sextus Empiricus, and Foucher (1644–1696), historian of the Academy of Plato. Before Montaigne, Jacques Lefèvre (1455–1537) did what Pomponazzi was doing in Italy, studying Aristotle in the original instead of in the commentaries. He was seconded by Scaliger (1484–1558) who, however, had such an enormous respect for his subject that he treated him as practically infallible. As an anti-Aristotelian, perhaps Ramus (1515–1572) should be mentioned. His contemporary fame was very great, but his pretensions to have developed a new dialectic were hardly justified.

The sixteenth century in France was a century of strife. From its very opening under Louis XII until the accession of Henri IV, there were not only foreign wars but also rebellion and civil war. The very names of Louis XII, François I, Henri II, Charles IX, Henri III, are evocations of futile strivings to annex Italian cities, to frustrate the Holy Roman Emperor, to put down Protestantism. Yet two things of greatest importance occurred during that bloody century: the great step toward the unification of France and the introduction of Italian art by François I. So that when the seventeenth century got under way and Italy had sunk into relative impotence as a cultural force, France had the wealth and the power and the education to become the leader of European civilization.

If one were to grow romantic, one might see in these times the struggle between authority and freedom. It took different forms in different countries, here being purely intellectual and artistic as in Italy, there political as in England. In Germany it was, of course, religious. In France it was scientific and philosophic, as it had been in Italy. Perhaps no one better symbolizes the new spirit in France than René Descartes (1596–1650), who lived from the time of Henri IV to the accession of Louis XIV.

The peculiar character of France at this time was that it was reactionary in religion and politics—being strongly Catholic and absolutistic—but progressive culturally. The same trait was manifest in Descartes, who laid it down as a rule of life never to contradict the teachings of the Church nor to violate the conventions of the general run of mankind, and who was more responsible than any other one man except Galileo for the mathematical and mechanical view of the universe which was a scientific revolution.

Like his contemporary, Bacon, and like his predecessors in Italy, Descartes was first interested in the proper method of attaining truth. That method he thought he had discovered in mathematics. For if the premises of mathematics be true and the reasoning correct, the conclusions are necessarily true. But the axioms of mathematics have a clearness and indubitability about them that makes everyone who understands them accept them—or did in Descartes's time. If philosophers could find equally good premises, their results would be more fruitful than they are.

Descartes, then, abandoned the syllogism, which he declared to be good only for communicating what we already know and hence valueless for discovery, and devised the following method for himself. First, he would accept nothing as true which was not clear and indubitable; this was obviously to avoid false premises. Second, he would analyze each problem into as many parts as possible and discuss it part by part. This was the method of analysis and was the introduction of atomism into method. It had, as a matter of fact, been employed four or five hundred years before his time by Albertus Magnus, Saint Thomas, and the other great scholastics. Third, he would order his thoughts from simple to complex and study them in that order. (A thought is simpler than another when it presupposes less than another. Thus, an axiom is simpler than a theorem in geometry.) The advantage of this is that your reasoning involves no unproved items, but each step is logically subsequent to the step preceding it. Fourth, he would make enumerations and reviews so complete that he would be sure to have omitted nothing. This would eliminate the possibility of the error Bacon maintained was so common, the neglect of negative instances.

The Cartesian method reduces on the whole to the first step—the choice of premises—and Descartes next set to work to determine what ideas were indubitable. He found that most of his experience could be doubted. For it was notorious that sense perception was untrustworthy; and as for inference, it was clear that not only other people but he himself were capable of logical fallacies. Hence nothing he had so far accepted as certain could be taken as the starting point of his new philosophy. But in all this doubting one thing was certain, *viz.,* that someone was doubting, and that this someone, in order to doubt, must exist. As soon as he ceased the investigation, it was clear that he had no reason to think he existed. But certainly he must exist at least every time he thought about anything. He therefore concluded that he was a substance (*i.e.,* in this case, a particular thing) whose nature consisted of thinking and which, as far as could be proved, needed no body to define it, so that even if there were no body, thinking at least would be known to exist.

The truth of this proposition seemed to Descartes to be self-evident. It was not, as far as he could see, an inference. It was a truth which was grasped intuitively by him, "conceived," as he said, "clearly and distinctly." Hence he reasoned that the clearness and distinctness of a proposition were the marks of its truth. The only problem was in determining what ideas we distinctly conceive. But he did not tell one how to determine that, for it was supposed to be obvious.

Having decided upon his own existence as a thinking being, he began to see that if his existence was that of a doubter, there must be something more perfect than he, which would be a knower. Whence did this idea arise? Of many ideas he could be the author, for he knew the human mind to be capable of inventing numberless fancies and fictions and responsible for many illusions. But the idea of a being more perfect than himself could not come from himself nor yet from nothing. For, Descartes assumed,—and he did not question this assumption—the source of an idea must be "adequate" to it; that is, there must be a degree of similarity between our ideas and their objects. Hence the idea of a being more perfect than the person who has the idea must come from something more perfect than he who has the idea—a postulate which is the old "likeness-postulate" of the Greeks. But then that more perfect being must exist too. But if so, then he must have all the other marks of perfection, infinity, eternality, immutability, omniscience, omnipotence, the lack of which Descartes recognized in himself. This being was God.

There is another proof of God's existence in Descartes which is similar but not identical with this one. This consists in examining his stock of ideas to determine whether he has any of which he could not be the author. Most of his ideas he finds he could have made himself. But this could not be true of the idea of God, for he could not be the source of an idea of an infinite substance with the Eleatic qualities mentioned above, since he himself is not such a substance.

Moreover, how could a person with such an idea come into being? Descartes assumes that he did come into being. Either from God or from himself. If from the latter, he should have no doubts, no desires, no imperfections; for it is unlikely that if one were to create himself, one would make himself so unsatisfactory as man is. But if he were capable of making himself perfect, he—again the likeness-postulate—would be perfect. But then he would have been God. Therefore God—or someone indistinguishable from God—must have been his author.

God's existence being thus—and otherwise—proved, the question arose of how the idea of God was implanted in man. It obviously could not have come from sensation—for one does not see or hear God—nor from imagination, for it is not a work of fiction. It must be innate "in the same way as is the idea of myself." In what sense is the idea of myself innate? In this sense: that it could not come from external experience alone and could—and does—arise from the faculty of thinking alone. As soon as one is aware of thinking at all, one is aware of existing; as soon as one is aware of existing, one is aware of God's existence. Descartes compared innate ideas to inherited dispositions to disease. We say that such a person is "naturally disposed" to gout, not meaning that he was born gouty but born with a disposition to gout which will develop into gout on the proper occasion. Another person is immune to certain diseases, meaning that he will not fall prey to them when exposed to infection. Human beings are born with the ideas of self and God in the sense that as soon as they reason, they will recognize the implicitness of these ideas in their ability to reason. It was a similar theory that Lord Herbert and the English Platonists advocated later, and that Locke attacked on the grounds already expounded.

God's existence, then, as a perfect being was proved to Descartes's satisfaction. One of the attributes of such a being is that He is truthful and would never attempt deception. Therefore the doubter has reason to believe the clear and distinct, for in so far as he is an intellect, he is like God and shares to some degree the insight which is His. When the doubter errs, it is because of his will which God—for some unknowable reason—made imperfect. (Descartes did not explain why an undeceiving being whose major interest is truth, should create people so liable to error.) Thus if one moves on with mathematical precision from the ideas which one begins with, one will be always assured of the truth.

Descartes, therefore, made the next step, which was to the existence of material things. These are introduced as the cause of our perceptions, for perceptions arise without thought, without the intervention of the will, and sometimes against our will and desire. Now either these perceptions come directly from God or from matter. But if they come directly from God, God would be a deceiver, for they do not seem to come from Him but from matter. As God is not a deceiver, they must come from matter and material things must exist as the source of our perceptions. What, however, is their nature? Not that which is grasped in perception, for our percepts are confused and obscure. It is what they are for geometry, primarily, and, in cases where geometry is of no avail, whatever I can make them out to be by the light of "nature." Such things are psychological data, like the correlation of pain with bodily harm, thirst with a need of drink; common-sense information, like the existence of the different colors, sounds, etc. But common sense, or nature, must not be understood to be infallible; whenever it is susceptible to rational correction, it must give way. Now our geometrical knowledge of things is of things in space; that is, of things which are extended, for all the attributes of matter presuppose extension. Neither shape nor motion can be found in spaceless objects, and all matter has shape and motion. Hence the distinguishing characteristic of matter is extension, *i.e.,* spatiality.

This makes the world consist of two substances below God, mind (thinking) and matter (extension). These are substances because they can be defined in their own terms. One can define mind without reference to matter and matter without reference to mind. They are absolutely different. But, curiously enough, they seem to act in conjunction in the case of human beings, whose wills direct their bodies and whose bodies affect their minds. How is this conjunction brought about? Descartes believed it to be brought about in the pineal gland of the brain where the soul would act directly upon the animal spirits (which were a thin volatile vaporous substance given off by the blood) which in turn acted upon the muscles. It is incredible that Descartes should have thought a gas less material than a solid, but still he writes as if the mind's action on the spirits was less of a difficulty than its action directly on the muscles.

But why should the interaction of mind and body be a problem? Because of the causal postulate of which we have already spoken, that causes must resemble their effects. It is fitting here to mention why this postulate was adopted.[1] It was adopted presumably because causation was looked upon as the transfer of a property from one object, the cause, to another, the effect. Thus, if an object becomes heated, it is because the heat of another object—the cause—has been transferred to it. Or if an object changes color, it takes on the color of another object. But in many cases of material change, there is no such simple analogy between cause and effect. Thus, if it changes shape—as a bit of melting wax does—it does not literally assume the shape of the cause of the change, say, a match or the sun. Hence most changes in matter were explained as changes in motion— sometimes of the particles internal to the object changed, the molecules or atoms. Motion became rapidly a universal source of change in matter. But matter could move only through the impact of another bit of matter. The latter transferred its motion to the former. Motion thus became an atomic entity which was, so to speak, carried about by objects, like bundles in a wagon. If an object which had no motion came in contact with another, obviously nothing mobile could result. There would simply be spatial contiguity. The mind was by definition such an object. It could not move because it was not in space. Hence if the causal postulate was true, the mind could not produce motion and hence could not interact with the body.

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[1] Cf. above, the section on Telesio, p. 170.

The same reasoning applied to the body's effect upon the mind in sensation. What happened to its motion when the nervous current reached, say, the brain and became a sensation? Since the mind was not in space, it obviously could not move and hence the motion would be lost. But this was incredible. Hence if the interaction occurred, it would be a miracle.

Descartes was at a loss to explain the interaction on the basis of his own presuppositions, but as he had determined not to contradict the teachings of the Church, he had no intention of eliminating the difficulty. His successors, however, saw it, and it modified in part the course of future philosophies.

The enthusiastic Cartesians were not disturbed by it. They saw in Descartes a vindication of traditional and noble beliefs and a vindication based upon premises which were not *démodés* but upon the latest discoveries in physics and mathematics. It was as if someone today were to deduce all the doctrines of Christianity from the theory of relativity. The doctrine became fashionable: the ladies of society took it up; popular synopses were published; everything was explained by its means. Kuno Fischer, a German historian of philosophy, sees it in Corneille and Racine; and it is indeed likely that the emphasis upon clearness and distinctness, the mechanical perfection which was demanded of the arts under the name of classicism, to say nothing of the analysis of the emotions—which we have not discussed here—which is so prominent a feature of French classical drama, were ultimately to be traced to Cartesianism.

But Descartes was not without a rival. Others besides him were opening new roads to truth which did not traverse the forest of scholasticism, and chief among them was Pierre Gassendi (1592–1655). Descartes had been weaned away from the syllogistic method by his work in mathematics; Gassendi, by reading the works of Vivés, Charron (the disciple of Montaigne), Ramus, and Pico della Mirandola. Their "modern" attitude confirmed him in his; and, when called upon to give a course of lectures on Aristotle, he divided it into two parts, the first an exposition, the second a criticism. From this labor arose his first book, *Onslaughts On Aristotle* (*Exercitationes adversus Aristoteleos*). The importance of this book was the state of mind it revealed. It showed a man indignant against the tyranny of authority, fearless and pitiless in attacking pedants and Sophists. It was a protest against the conception that any one philosopher of the past could have arrived at ultimate truth on all subjects. In the manner, already familiar to us, of the Italians and the English, he urged men to turn from the exposition of an authority to the study of nature, and his exhortation was as influential as Descartes's.

He and Descartes were recognized as leaders of the two great anti-Aristotelian (which meant anti-authoritarian) schools, the one substituting experience, the other reason for the teachings of Aristotle.

The contemporaries who most excited the enthusiasm of this liberal cleric were Galileo, Bacon, and Hobbes. Those who least excited it were Robert Fludd, the English eclectic Platonist who has no place in so brief a history as this, and Descartes. In Descartes he objected to the method of universal doubt and to the use of divine veracity as evidence. He objected also to the theory that the essence of mind was but thinking and of body but extension, which to him were merely two of several other attributes. He seemed to see that if they were as Descartes had described them, interaction between them would have been impossible.

But the great influence in Gassendi's life was Epicurus who, like himself, hated the subtleties of Sophistry and believed philosophy to be above all a training for the good life. He was the first of the moderns to rehabilitate this great figure of antiquity, and he spent some twenty years of his life assembling, correcting, and organizing the fragments. The results of his studies were not only a life of Epicurus, a commentary on the parts of Diogenes Laertius which concerned him, and a summary of Epicureanism, but also a treatise expounding his own system, the *Syntagma Philosophicum*. But this association of his name with that of Epicurus almost ruined his reputation in the eyes of the learned world, for the sober philosophy of peace of mind was still looked upon as a kind of Corinthian sensualism. Thus Gassendi became the champion of the sceptical, materialistic, hedonistic, empirical, Jesuitical party, while Descartes became the champion of the rationalistic, spiritualistic, ascetical, Jansenistic group, although Gassendi was himself a priest and Descartes a layman. And just as Corneille may (more or less fancifully) be called a Cartesian, so Molière may (with more reason) be called a Gassendian.

The basis of Gassendi's philosophy, as of Epicureanism, was the existence of material atoms, which were unborn and undying, solid and indivisible. They were of different forms and different weights. Weight was the atoms' inner power of activity—like the force of Telesio's material particles—and moved them through the void. Moving thus, they built up the conglomerations which we know as material objects. (This violated what had by that time become an axiom,—namely, that matter was inert, which was contradicted only by such heretical thinkers as Telesio.) Even the soul, when it moved the body, did so through its corporeal side. And the atoms when attracted toward one another, were thus attracted by a kind of dumb sensation, not unlike what Leibnitz will later call the "petites perceptions." Thus, when a magnet attracts a piece of steel, "experience informs us that there is in the steel, if not a soul, at least something analogous to a soul," which can carry the heavy and inert mass of metal along with it. This was an important link—logical if not historical—between Telesio and Leibnitz, as we shall see.

It should be added to this sketch that Gassendi differed from Epicurus in asserting that—in accordance with Christianity—the atoms were created by God and from His point of view were both generable and destructible. He also believed that the inner force of the atoms was imparted to them by God. He corrected the Epicurean notion of the atoms' swerving from their path, thus returning to Democritus; and he added what we have just mentioned, their low but real degree of animation.

This theory of matter was obviously very different from

Descartes's. Gassendi's theory of knowledge was equally opposed to the great rationalist's. For Gassendi believed that not only was sensation itself knowledge and the source of all knowledge, but that it was caused—as in Hobbes—by the action of one material thing upon another. Sensation exists even in the minerals and runs through all matter, and just as the smallest bit of matter is sensitive, so is the whole world. Sensation resides in the atom's active motor power. It furnishes to the understanding in man all its subject matter. But it is not identical with the understanding, for the understanding is immaterial. Immaterial though it be, the understanding would be inoperative without the coöperation of the material disturbances of sense; and hence it cannot have a stock of innate or other ideas whose origin is nonsensible.

Our ideas are acquired, as in Locke,—who was a generation later than Gassendi—either directly from the senses or by the power of the mind itself, as by composition, aggrandizement, diminution, and "accommodation." These processes are seen in the creation of complex ideas, of fictions such as giants and pygmies, and of unknown objects modeled upon those we know. This means that Gassendi—like Locke—is not a pure empiricist in the sense of one who maintains the literal origin of all our ideas to be sensation. We do indeed imagine God, for instance, in sensory form, but the imagination is different from the understanding; and we understand that our image is but a symbol of something unimaginable—*viz.,* an incorporeal substance. The images are but the tools which the reason uses; they are not identical with reason. It is clear that to such a person pretensions to cognitive certainty are vain. Our knowledge can be made very good; we can constantly refine it; but only

God need be expected to enjoy absolutely true knowledge, for only He knows without the aid of images.

But if there be a part of our soul which is incorporeal, whence did it come and what is its nature? The soul is like—Gassendi does not aspire to be certain about this—is like a very thin fire sublimated out of matter. It is generated out of the composition of our bodies when they are first conceived, and is constantly renewed. Its elements, then, are not psychic, except in so far as all matter is active and has a "sort of soul." They are not as fully psychic, have not the same qualities as their product. For, says Gassendi, we cannot accept the causal postulate too literally. For, if we did, we should have to assume that the characters of all effects were literally in their causes and—this is extremely interesting to find in a man of his time—there is nothing repugnant in finding something in the whole which is not in the parts. Thus, two cold chemicals when mixed will produce heat. Gassendi hesitates to maintain that the new quality is absolutely new, and says that evidently the matter out of which it arises must be "predisposed" by God to produce it. But from the human point of view it is new. That this raises a number of difficult problems he does not deny; but he says that it is more in keeping with the scientific attitude than the theories that oppose it.

He dares not, however, go the whole way with this hypothesis and derive the reason and intelligence, as Aristotle did, from the lower regions of the soul. Here the convictions of the cleric enter and one learns that the soul is dual —irrational and rational—and that the latter is created directly by God and inserted into the human body. This part of the soul is immortal—something material could not be.

It is clear that Gassendi is a curious compound of old and new beliefs between which he strives to find a reconciliation. His attachment to the Church made complete freedom beyond his reach; yet in his time he was considered a very daring innovator. That he attacked the great authorities of his day, that he defended the arch-materialist and hedonist, made people often overlook the orthodoxy of his conclusions. What was daring was his manner of defending his beliefs: the beliefs themselves were what any pious churchman might maintain. That may account for his popularity among the men of the world who thought Descartes a man of too little common sense and too extravagant phantasy.

Gassendi was not the only rival Descartes had to meet in France. I do not speak of Hobbes, who was another of his famous opponents, but of Frenchmen. As it happened, he who had been the pupil of the Jesuits became one of the chief supports of the quarrel that broke out between them and the Jansenists. There was very little in Descartes which would have implied either Jansenism or Jesuitism, unless it be the echoes of Augustine in the *cogito ergo sum*. But Arnauld, who was the Jansenist leader, was a Cartesian, and it was natural that his opponents should also oppose his masters.

An examination of Descartes's *Meditations* revealed not merely the fact that the method of initial doubt was in effect a denial of ecclesiastical authority, for if the teachings of the Church are true and ought to be accepted by all good Catholics, of what need is there to begin by doubting? Was not doubting but another of these Protestant tricks to slip "individual interpretation" into religion? The Church, then, as later, would not admit that any process—however orthodox its results—which supplanted the authority of the Church in matters of dogma was valid.

Add to this the heresy that Cartesianism seemed to contradict the dogma of transubstantiation. For Descartes's theory allowed for only two substances—matter and mind—each of which was homogeneous except for its qualities (or accidents). Thus the only difference between one bit of matter and another was shape, size, weight, color, taste, etc. Change in matter was always a change in qualities, never in substance. But the miracle of the Mass is supposed not to change the qualities but to change the substance. The Eucharist before and after the Mass looks alike, weighs alike, and is only different in substance. Instead of being bread, it is the body of Christ. This Descartes could not absorb into his philosophy, try as he would. Hence Descartes was branded as erroneous—in spite of his good intentions. His doctrines were declared hostile to the Church and harmonious with Calvinism. In 1663 his works were placed on the Index; four years later permission for his burial in a Parisian church was denied; the king forbade the teaching of his doctrines in the Collège Royal (1669) and year by year new prohibitions were added.

But such prohibitions were in vain. Cartesianism spread and became the reigning philosophy not only in France but also in the Netherlands.

The great difficulty in the Cartesian philosophy was, as we have said, the interaction of mind and body. According to the causal postulate, causes and effects must resemble each other. But mind and body are totally unlike. And yet Descartes left them interacting.

It is clear that two courses were open to Cartesians: either to accept the causal postulate or to deny it. If they accepted it, they must either deny the dissimilarity of mind and body or deny their interaction. If they denied it, they could either affirm or deny the dissimilarity of mind and body. But no one at that time saw fit—for reasons which I have already suggested—to deny it.

The French Cartesians accepted the postulate and explained the interaction as a miracle. Upon the occasion of the mind's willing something, God interfered and effected the bodily motion willed. God thus became the efficient cause and the mind but the "occasional cause," as the birth of a child may be the occasion but not the cause of a man's changing his last will and testament. Such people were called Occasionalists, and the greatest of them was perhaps Malebranche (1638–1715).

According to this doctrine, the common notion that we move our limbs when we will to move them is fallacious. We will to move them but God carries out our design. Strange as this theory was, it seemed the only possible account of things if the causal postulate and the absolute difference of mind and body were to be retained. For religious people it had an added advantage, since it brought God down from heaven and made Him participate in the most pedestrian affairs of our life.

But the same theory in Malebranche went a bit farther. If our minds are not active—*i.e.,* causes—have we any reason to believe that bodies are? Matter from Greek days on had been a symbol of inertia and passivity. Even in Newton, who saw bodies as moving eternally in free space, the initial push was given by an immaterial force—God. Moreover, all we observe in the interaction of two bodies is their conjunction: we do not actually see the transfer of energy nor can we conceive it. Such activity must be the characteristic of a being who is fitted to act by nature; and, again, such a being is only God. So that here below no causation proceeds without the direct agency of God. Bodies are nothing but extensions; extension is incapable of producing motion; all material changes are motion; *ergo,* God alone is the moving force. It is God's will that is expressed in the simple and regular laws of nature, and nothing else.

Minds cannot move bodies, bodies cannot move bodies, and evidently bodies cannot move minds. How, then, does our knowledge arise, our knowledge which seems to be a product of the action of the material external world upon our minds?

Malebranche assumes what was assumed by Locke, Berkeley, and Hume, that we know only our own ideas. Matter is obviously not an idea but is extension. Its characteristics are not those of the sensible world but those which physics uses, the properties which Locke called primary qualities. But these properties we know more clearly than we know our own "states of mind," our emotions and affections which are always confused and vague. The properties of matter, on the contrary, are logically deducible from the very attribute of extension. (We have illustrated how in considering Henry More and Descartes.) Hence we have adequate knowledge of matter, though we know it only through something which is utterly different from it. How is that possible?

It is possible because God has given perceptions to us all made. They are His thoughts and we see them in Him. They are not transferred from God to us, nor caused in us by God—as in Berkeley. They remain in God and we, knowing them, know God's mind. God's mind is an infinite logical system which is truth; and that is why, when we have clear and distinct ideas, we grasp the truth. All of these ideas correspond to some material thing; but we know the ideas, not the things. They are the Platonic forms of things after which things are made. Thus, whenever two minds grasp the truth, they are intuiting the same idea in the mind of God, are sharing one object. Their individuality drops out, for they are not aware of themselves-knowing-the-object; they are aware of the object itself alone. Hence knowledge of truth becomes a loss of individuality.

Before Malebranche's philosophy is completed, it becomes evident that physical causation, psychophysical causation, direct knowledge of the physical world, human individuality, God's transcendence, are done for. We are useless and inexplicable phenomena in this universe, for all that we contribute to things is obscurity and confusion.

This philosophy, so tantalizing in its implications and startling in its results, awoke as much interest in France and England as Descartes's. The later English Platonists wrote paragraph upon paragraph about this French Catholic who so closely approximated their own tenets. He and Berkeley carried on a long correspondence about the reality of matter, and his theory of causation may not have been without influence upon Hume. In France, though the reading public gave his books the great reputation they deserved, he himself was attacked both by the Jesuits and the Jansenists. Arnauld, the great Jansenist, bitterly attacked his theory of knowledge and tended to swing public opinion away from him; Régis, the prominent Cartesian, attacked certain of his ethical theories; and he opposed Fénelon in the latter's controversy with Bossuet.

The problem which he solved by Occasionalism was solved in the same way by the Flemish Geulincx (1625–1669). As a matter of fact, Geulincx's Occasionalism is earlier than Malebranche's. His *magnum opus* is his *Ethics*.

Geulincx differed from his younger contemporary, Malebranche, in sticking to the Cartesian theory that self-knowledge was the most certain and immediate. He inferred from this that any thing of which we are not conscious cannot be ourselves, and that therefore, if there is anything going on within the psychophysical organism of which we are not conscious, it is not part of us and we are not its author. Hence we are not the causes of the involuntary. All this rests upon the Cartesian identification of thinking and the self.

We now are made aware of the fact that upon this principle we cannot be the authors of our sensations. Yet as they are mental they must be produced by a mental cause and the only mental cause is God. But how is God to produce these things in us? Not by means of other minds—or mental beings—for minds are simple and homogeneous and sensations are multiple and complex. The means must be bodies which are preëminently divisible and, as all bodily change is, in the last analysis, motion, it must be by motion. Yet—because of the causal postulate—motion cannot cause any change in mind. Hence the body must be the occasion but not the cause of our sensations.

If we extend this doctrine we see that we are in the most primitive form of Pythagoreanism (some historians would say Platonism) in which the body is simply a vessel for the soul. The whole corporeal regimen has nothing to do with me nor I with it. Our proximity is purely temporary and the battle between the spirit and the flesh ought never to arise; is, indeed, inexplicable on natural grounds. The causal interaction between the two, the influence of body on mind in sensation, of mind on body in volition, is illusory; and God alone by a kind of miracle unites the two and keeps them in harmony with one another. God is a necessary assumption in Occasionalism, but of little scientific value. For to introduce Him when one cannot explain things naturally is obviously to admit one's impotence.

But to make everything in the world not merely ultimately but immediately dependent upon one will, is to render the course of events a close deterministic system, in which chance plays no part and events occur with the rigid necessity of mathematical implication; and to make man's rôle in nature no different from that of a falling stone. This is no criticism of the theory, but a statement of fact; and the question must be faced of how, if man is so utterly passive, he can ever be urged to change his conduct or be reproached for anything he has done. Yet most people who have developed systems of ethics have insisted on deriving rules which are not merely descriptions but are also exhortations. After the outline of Geulincx's metaphysics just given, one would suspect him, at least, of maintaining that to strive to do the right and to avoid the wrong is impossible. One can only stand and wait for God's impulsion. And in a measure he does preach that, closely approaching quietism in his exaltation of humility, "the greatest of the cardinal virtues." But he exhorts as well to self-knowledge, to a proper understanding of the relations of mind and body and of our impotence. But he nowhere demonstrates how man, who is the plaything of the uniquely powerful God, can be wise and self-knowing if God decrees he shall be ignorant.

Neither Malebranche nor Geulincx pushed Cartesianism to its logical conclusion. To do so, one would have to be disinterested, to have no *arrière-pensées,* no religious presuppositions to warp one's inferences. Such prerequisites were found in Baruch Spinoza (1632–1677) who, being an excommunicated Jew, was free to go where reason led him, with no regard to the teachings of church or synagogue. As a consequence, he was the first of modern philosophers who developed a system innocent of apologetic purposes, though there are constantly traces in his minor writings of his anti-Jewish animus. For whenever he wishes to find an example of philosophic stupidity, he looks for it in the great Jewish mediæval philosopher, Maimonides.

He was, nevertheless, a child of his time in his presuppositions; and one sees meeting in him not only Cartesianism but that powerful Neo-Platonic strain that emerged in Bruno and other Platonists of the Renaissance. He adopted both the method of Descartes (the geometrical method), the critical value of clear and distinct ideas, and, at the same time, the problems of substance, the relation of mind and body, human freedom, God and the world.

His fundamental assumption was, as Höffding notes, the causal postulate. "Whatsoever things have nothing in common cannot one be the cause of the other." This is not, however, an axiom in his eyes but an inference from two axioms, the first of which is that things which have nothing in common cannot be understood or conceived in terms of one another; the second of which is that the knowledge of an effect depends upon and "involves" (presupposes?) the knowledge of a cause. It would seem to follow from these axioms that if two things have nothing in common, one cannot be conceived to be the cause of the other. But in a letter to his friend Oldenburg he explains the reasons differently, maintaining that "as there would be nothing in common between the effect and the cause, the whole cause would spring from nothing."

As a consequence of this, Spinoza argues that therefore mind and body cannot interact. What, then, is the relation between them?

We must first discover what they are. Minds are collections of ideas; and an idea for Spinoza is not what it was for Locke, Berkeley, and Hume,—namely, "whatsoever is before the mind in consciousness," but what it was for Descartes and his followers,—namely, a Platonic form—without necessarily the Neo-Platonic metaphysics—or an Aristotelian "essence." It was something that could be fully expressed only in a proposition, not in a term. The idea of a circle, for instance, was not the image of a circle but the essence of a circle, *viz.*, "that it is a plane figure all points on the circumference of which are equidistant from the center." But it was held by Spinoza, as by all the Cartesians as far as I know, that though this was the "ideal" idea, we had others of less perfection—*i.e.*, which were less clear and definite. That ideas were of these different degrees of perfection, is a remnant in Spinoza of the Neo-Platonism which was part of the mental background of his time.

Ideas as Aristotelian essences were curiously enough attached to "objects." That is, there exists not only the idea of a circle, but circles; the idea of man, but men, and so on. What is the relationship of these two realms of existence? "The order and connection of ideas is the same as the order and connection of things." The order of ideas is that of logical—Spinoza would have said "geometrical"—implication; the order of ideas is that of material causation; and Spinoza seems to believe that the causal succession of physical events is paralleled by a logical succession of their ideas. The occurrence of an event does not and cannot "produce" its idea; it "has" an idea or is expressed in an idea; and were these ideas clearly apprehended by the mind, we should have before us a picture of the course of physical history. Why is this so?

Because ideas and things are respectively forms of thinking—or bits of thinking—and of matter, which in turn are attributes of one substance which Spinoza calls "God or Nature." There can be only one real substance, because a substance is defined as "self-dependent" and only the whole of things is self-dependent. Everything less than the whole is dependent on something else. Even Descartes saw that his two substances were dependent on God who was the basic substance and, therefore, were not substances in the same sense as God. But if substance is really self-dependent, it must be all-that-is. But if it be all-that-is, it must be unlimited; for to be limited is to be limited by something, and hence to depend—at least for one's limitations—on something else. But the whole of things has nothing outside of it to limit it and hence is unlimited. This property Spinoza calls "infiniteness." The essence of an infinite substance is to have all possible attributes. An attribute is the essence of a substance as perceived by the intellect, and the intellect has by the Cartesian method already distinguished two such attributes, thinking and extension. Therefore God is a thinking and extended substance, as we know Him; but since He is infinite, He must be much more besides. The basis, then, of the parallelism between mind and body, ideas and things, is their fundamental identity in Nature (or God). If the intellect had a third way of perceiving things, then the three attributes of God would be "parallel."

We have an analogy to this parallelism in the relationship between the non-Euclidean and Euclidean geometries. For every theorem in the one there is a corresponding theorem in the others, but all of these theorems among themselves are contradictory.

The changes which go on in Nature, then, are manifested now as ideas (when they are known), now as things. As our minds are collections of ideas, there must be corresponding to them collections of things or bodies; and, contrariwise, "if the object of the idea constituting the human mind be a body, nothing in that body could happen which would not be perceived by the mind." Now, as a matter of fact, the object of the human mind is a body, to wit, the human body, for all our ideas of the external world are modified by our sense organs at least. Man becomes both body and mind. Some of our ideas of our body are obscure, others are distinct; but Spinoza, in a scholium to his theorem proving our dual nature, indicates that there is a parallelism between certain characters of the body—*e.g.*, its activity, its perceptual acuity, its independence of other bodies—and of the mind—its power of forming many perceptions and distinct concepts. He does not, unfortunately, elaborate this point.

The one substance, then, is God or Nature, with its two attributes of thinking and extension among the many others. These two attributes were in the eyes of Spinoza's contemporaries not only different but "opposite." Thus mind was considered to be all that was active, creative, purposeful, free; and matter all that was passive, inert, mechanical, and determined. So that Nature seemed to have contradictory properties. Could one thing have these two sets of properties and still be one? Spinoza revives the Neo-Platonic conception of *natura naturans* and *natura naturata* both fused in one which we found as early as Erigena and which is in the disciples of Plotinus. It means that Nature is not created by a power outside itself but, being subject only to its own laws, is both the creator and the created. It is both active and passive, not in the sense that as an agent it is different from and acts upon itself as patient, but in the sense that it "just grows" or happens in accordance with physical law, and that since physical law is not prescribed for it by a supernatural power, it is autonomous, making, so to speak, its own laws. The distinction implied in the words "agent" and "patient" was necessitated not by logic but by certain scientific presuppositions. It was presupposed, as early as Empedocles, that a change implied a changer and something to be changed. If, now, there was no changer, then the changed must be both agent and patient. It was a literary manner of saying that Nature was sovereign. But how easy it was, by emphasizing the materialistic side of Nature, to make *ce misérable Spinoza* (as Malebranche called him) an atheist, or, by emphasizing its mental side, to make him a pantheist.

If the world as a whole is self-caused, is it impossible to determine how its changes occur? Had Spinoza lived before Bruno, he might have said, "Yes." But Bruno's Neo-Platonism had been tinctured by the "new" science and he had maintained the universality of mechanical law. This Spinoza reëmphasized because of his Cartesian background; and he maintained that the same sort of laws which held good in physics held good everywhere. Nature—for all it was mental as well as material—proceeded in a strictly determined and predictable manner, every cause producing its effect. This held good, of course, of ideas, whose laws were mathematics or logic, as well as of things. Nothing—not even the human will—was "free."

Yet Spinoza's whole life was a struggle for freedom, and his *Ethics* an attempt to define the possibility of freedom. But in his eyes the problem was not of finding freedom *for* anything in particular but freedom *from* something. Like the Stoics and Epicureans, he wished for freedom from restraint. "That thing is said to be free, which exists from the sole necessity of its own nature and by itself alone is determined to act." It would seem, therefore, that only the whole is free, and in a certain sense that is true. But within our own lives we find ourselves now forced by outside forces, now more or less self-dependent. Under what conditions does the latter state arise?

Our mind is active when it has adequate ideas, passive when it has not. And adequate ideas are those which coincide with the essence of things, which in true knowledge Spinoza seems to think we intuit directly. But an intuition of the essences is in the long run intuition of God—for God (as a mental being) is the system of essences. But to behold the essences is to be them, since the mind for Spinoza is, as we have said, nothing but ideas. And the essences are adequate ideas. Being the essences, we are God and we are free, because the essences follow from one another by their own implicative fertility.

On the other hand, the mind is passive when its ideas are inadequate and confused. This is because inadequate ideas are not essences and hence are not of the same nature as mind which is, as we have repeatedly said, a collection of essences. Inadequate ideas are emotions. They are produced in us by a cause external to us. Thus, if we are in doubt as to the outcome of something, we have an inadequate idea of its outcome—we do not see its linkage to the present: immediately we have an emotion of hope or fear, depending on how we envisage the future. So with the other emotions. They can all be divided between the pleasurable and the painful—and Spinoza's analyses are as brilliant as La Rochefoucauld's—and are all confused ideas. An idea which is clear, on the other hand, is passionless. One is neither pleased nor pained by the knowledge that the sum of the angles of a triangle equals 180° rather than 102°.

Now by an axiom of atomism, nothing other than the whole ever changes of its own accord. In physics, a moving body continues to move in a given direction until interfered with by another moving body; in Hobbesian politics, the social atom moves in his own course until interfered with by another. So any atom—qualitative or quantitative—will stay as it is until something interferes with it, for the very reason that otherwise there is no "reason" why it should alter. Thus any state of mind—*i.e.,* any idea—having arisen, will tend to persist whether it be active or passive. Hence, if we are in the grip of an emotion (a confused idea), it will continue until displaced by something else. But as the mind is by nature active, it tends to assert its own activity and to conceive things which will increase it. And, as it happens, those states which do tend to increase it are pleasurable, whereas those which tend to decrease it are painful. Thus all our emotions are either pleasurable or painful, the former on the whole good, the latter bad.

The problem which we must then face is that of eliminating the painful emotions, such as hatred, fear, despair, disappointment, pity, indignation, humility, etc. An emotion, however, can only be overcome by another emotion, so that to eliminate pains is to substitute pleasures for them, which is to lead the mind toward its own activity. A fact about the strength of emotions helps us to do this; *viz.,* the fact that that which is necessary produces more emotion than that which is contingent, that which is present more than that which is past or future. Thus if we know that we are suffering from an illness which is bound to be fatal,—a cancer, for instance—we are more moved than if we are merely aware of a possibly but not inevitably fatal outcome. So a disaster which is in the past gradually fades out, as one which is still in the future is not yet intense. But as soon as we understand these things rationally, they are all alike, for to see them rationally is to see their essences, and (as we may remember from Plato and Aristotle) essences of a given thing are always the same. We see the natural laws under which they arise and that they all are equally inevitable and equally present. The past and future are telescoped into an eternal present: the contingent is seen to be rigidly necessary. Thus there is no choice between essences, since they are all equally good; and the distinction of better and worse disappears. An isosceles triangle is no better than a scalene; the essence of one deed is no better than the essence of another. When one then has a rational conception of things, he finds himself in a state of greatest activity, because he is living in a state most harmonious with his inner nature. For his inner nature is that of a mind which, it must not be forgotten, is a collection—now better called a "system"—of essences.

As our emotions become clarified, they become ideas; and when they are entirely clarified, they cease to be emotions whatsoever. We are then free of them and are living the life of God, envisaging things in their immutable necessity. We are free because we are finally ourselves and not determined by external forces. We see the eternal linkage of events in a single intuitive flash, as a supremely great geometer might see a whole system of geometry in his understanding of certain postulates and definitions. To say to a man who has even an elementary knowledge of geometry, "No equilateral triangle can contain a right angle," is to say something almost self-evident; to say the same thing to a man ignorant of geometry is to leave him bewildered and demanding a series of delicately articulated steps backward to the premises which imply it. The man who lives the life of God sees all things in the geometer's manner and has achieved the end of life. If one ask why this is the end of life, the answer can be merely that the end of man is to be a man. It was the answer of Plato and Aristotle and all the pagans. Spinoza was a pagan. That his contemporaries should have seen in him an anti-Christian was not only natural but proper. His philosophy was the clearest pronouncement of anti-Christian principles that had been heard since the time of Julian the Apostate. So that it is folly for either Christians or Jews to deny his fundamental opposition to the ideal which animates them both.

His time saw this clearly and shrank from him in horror. He was the arch-atheist, the materialist, the subverter of all that was held most dear by the reigning powers. It was only after the French Revolution that he came into his own when certain Germans, captivated by Neo-Platonism, emphasized the pantheistic element in him. But by then Christianity had ceased to be a dominant intellectual force and had become what it is today, a folk-belief.

If Cartesianism led to what the times called atheism in Spinoza, it also led to scepticism. The seventeenth century in France had two important sceptical trends: one in the interest of the Church, one against it. The former was Cartesian in its origin and was voiced by the famous Blaise Pascal (1632–1662), mathematician as well as philosopher and, like so many sceptics, a great literary artist.

Pascal was a contemporary of Spinoza, and though they were alike in their lonely devotion to their ideals, Pascal became the spokesman of a great religious movement, Jansenism; whereas Spinoza, as we have said, was spokesman of himself alone. Like all the Cartesians, he was convinced that man's true nature and greatness consisted in his power of thought; and that only as he was a thinking being was he able to achieve salvation and to carry on the progress of the race which Pascal, like so many of his fellows, believed to be practically limitless.

But thinking, to Pascal, was not essentially reasoning. Reason was the faculty which was given us for understanding Nature. Attempts to replace it by imagination or authority were as ridiculous to him as attempts to utilize it for understanding God were futile. It was especially man's scientific instrument—as it will be in Kant—but no wise man's religious instrument. Its greatest strength is in recognizing its limitations, in knowing that there are an infinity of things which escape it. One must know when to doubt and when not to doubt. For the two great vices of philosophers are either to exclude the reason altogether or to admit nothing but the reason. In physics, then, and mathematics, and natural science in general, the reason is the only sure guide to truth.

Were man's interests limited to natural science, we might never feel called upon to disown the reason. But man's profounder needs are to know God and save his soul. This cannot be accomplished by knowing the law of falling bodies or the rule of three. God is the Infinite Reality—much in the Neo-Platonic sense—the *Ens Realissimum*—and as such, He cannot be adequately known by an instrument which is essentially finite. It is useless to try to know God rationally, for His nature is supra-rational. As well try to see ultra-violet or infra-red rays, to smell shapes, or to feel odors. We must believe in God for reasons which are not rational but moral. We must believe in Him by an act of will, by the profound desire to stifle our pride and to humiliate our souls. That yearning for submission, which is not reluctant but exuberant—like Tertullian's or Bonaventura's—is the way to heavenly felicity. It tells us that God is, but it does not logically prove His existence. Belief in God is in a way a wager. It is possible logically that He does not exist. But everything is to be gained by believing that He does and by acting as if He did. Therefore, one must believe in Him.

It is to be noted that religious truth is tested not by its consistency nor by its clearness and distinctness, but by its moral value, by its fruits. That belief which does more for the believer than its opposite is to be espoused. This is a direct inheritance of mediæval voluntarism, or Franciscanism, as we have called it. It will develop into Kant's theory of the practical reason as opposed to the pure reason, and will in our own times appear in the pragmatism of William James. Pascal is so convinced of the truth of this anti-rationalism that he is as zealous as an atheist in satirizing rational proofs of God's existence. He is said by his niece to have remarked to friends, "I cannot pardon Descartes. He would have been willing throughout his philosophy to get along without God, but he could not help granting Him a fillip of the forefinger (*une chiquenaude*) to start the world going. After that he had no further use for God." Such proofs as that God was needed as a first cause or as a designer of natural order seemed to him not only weak but of no moral value. You do not humiliate yourself before a first cause; you state its existence and pass on. And what Pascal felt the need of was the living presence of God which would be felt by "the heart," whether the reason knew anything about it or not. Such knowledge can come only by faith, and it is learned from authority.

Now a seemingly similar plea for faith as against reason in religious matters was made by Pierre Bayle (1647–1706), a man fifteen years younger than Pascal and of quite a different temperament. Bayle was a spiritual descendant of Gassendi rather than of Descartes, and had the same gift of sarcasm and the same learning. But whereas he ostensibly was pleading reason's inability to prove dogma, he gave one the impression of really trying to prove dogma's absurdity. He always said that dogma was above reason and hence must be accepted by faith; but his contemporaries and successors interpreted him as meaning that dogma was not only non-rational but irrational—incredible.

His manner of proving his point was to take up certain dogmas and show their internal inconsistency. God, for instance, was believed to be all good. But everywhere and at all times He has permitted evil, not merely the evil which accrues from sin, but evil which is unmerited as far as human reason can discover. Pestilences, earthquakes, floods, avalanches, volcanic eruptions, punish the good as well as the bad and are impossible to reconcile with a cause who is entirely beneficent. The only explanation is that God's idea of goodness escapes our reason and hence, though He seems by human standards to be maleficent as well as beneficent, yet on faith we must believe Him always to be a loving Father.

So His Church which we know by faith to be the expression of His goodness, seems to the carnal eye to have been guilty of evil practices. It has persecuted unbelievers, made wars, allied itself with the forces of Satan *as far as the human reason* can see. But in spite of these facts which history records, we must accept it as holy and pure. Not only has the Church been a wanderer from the path of rectitude, but—again *to the reason*—religion has had no particular effect upon morals. If we were to rely upon our reason alone, we should find that the most pious people have been the biggest scoundrels and that the most clamorous atheists and heretics have been noble and just. A society of atheists living by reason alone could be as moral as a society of Christians, for religion seems to be irrelevant to our behavior. How wonderful it is that dogma can be true and at the same time so contrary to fact! Obviously God requires His children to believe in the absurd and the incredible. Nor shall they fail Him. On the contrary, like Tertullian, they will believe not merely in spite of absurdity but because of it. So under cover of crawling submission, Bayle satirized both religion and the Church.

It is not hard to comprehend the effects of such teachings. Both Pascal and Bayle made for scepticism. Men who listened to the former turned to authority and tradition and deprived the Church of the protection of philosophy. Men who listened to the latter turned from faith to what they called "experience" and "philosophy" because a synonym for the free-thinking which even today connotes "anti-clericalism."

Meanwhile Louis XIV had turned the favor of the crown to the Jesuits, and two successive popes had condemned Jansenism not only in what it said but in whatever it might have meant to say. Then the Edict of Nantes, which gave Protestants certain liberties, was revoked; and the king, growing more and more pious under the influence of old age and the Maintenon, delivered himself and the country bodily over to the forces which make for the established and secure. The position of the Church became more firmly intrenched. Its privileges grew as Louis approached the grave, and its monopoly upon education became fixed and apparently inalienable.

But the piety and senile austerity of Louis XIV were not sufficient to convert God's favor into money. He left not only a good example to his successors, but an impoverished treasury; and the feeling began to grow in France that some progress politically and socially might be made. The English had chopped off the head of their last absolutist and, though the French had no intention of adopting such sanguinary measures, they began to feel that kings were not quite so perfect as they had been made to believe. Then in 1726 the French tragedian, Voltaire, went to London and returned a few years later to write some "philosophic letters" upon the English. These indicate with Cartesian clearness and precision the faults of the French Church and state and suggested the Hanoverian government and English society as a preferable change. His interest in England and English ideas was also influential in stimulating him to present Newton and Locke to his compatriots, with the result that the former, who was a mystical Neo-Platonist in his philosophy, acquired the French reputation of a great philosophic reformer and was looked upon as one of the leaders of anti-clericalism and pro-deism.

The struggle in early-eighteenth-century France became one about the source of truth. Was it vested, as the government seemed to believe and the Church taught, only in tradition, a perquisite of society beyond the reach of any individual, or was it something that one man could acquire as well as another? Between what was called "authority" and what was called "reason" the battle line was drawn; but reason no longer meant Cartesian reason—which all had abandoned—but "common sense," "philosophy," "enlightenment," or a variety of other things which distinguished the individual's powers of reaching truth unaided by inherited wisdom. This anti-clerical battle was carried on by two camps who, agreeing on the main point—that the individual was able to know by his own talents—yet disagreed upon the instrument of knowledge. One faction which centered about the *Encyclopædia* and was later called "Voltairean" was rationalistic; the other, centering about Rousseau, was sentimentalistic or anti-intellectualistic—in a sense to be clarified later.

The Encyclopædist group held no consistent body of doctrine. Voltaire, for instance, bitterly disagreed with many of them and they quarreled among themselves. But, on the whole—in the eyes of posterity—they stood for the following.

There was, first, the doctrine of materialism most vigorously and consistently preached by La Mettrie (1709–1751) and d'Holbach (1723–1789). Descartes had maintained that mankind alone of all beings was of a dual nature, and that just as God was all spirit, so animals and plants were all matter, simply delicate machines. If you poke pins in animals, they cry out, but if you squeeze a rubber doll, it squeaks; and all one can conclude from the reactions of animals to stimuli is that they are more complicated than "unorganized" matter. This doctrine became very popular in the seventeenth century and was ridiculed as much as it was admired. To some it seemed absurd, to others highly reasonable; and as Descartes's soul—as he showed in his book on the emotions—had as little to do with governing the body as his God had with running the universe, there was no particular reason why a soul should be invoked to explain any corporal state even of humankind.

This was pointed out in La Mettrie's *L'homme machine* (1748). The so-called soul, he finds, is affected by disease, sleep, drugs, food, age, sex, temperature and climate. "In illness, now the soul is eclipsed and gives no sign of life; now one would call it doubled, so transported is it by madness; now idiocy has vanished and the convalescence of a fool produces a man of wit. Now the fairest genius turned stupid no longer knows who he is. Farewell then all that fine learning acquired at such expense and such trouble."

"This man weeps like a child at the approach of death; that one jokes. What was needed to change the fearlessness of Cæsar, of Seneca, of Petronius into pusillanimity or cowardice? A stoppage in the spleen, in the liver, an obstructed portal vein. Why? Because the imagination is corked with the bowels and thence arise all those strange phenomena of hysteria and hypochondria." Such arguments, expanded in great detail and later systematized and better documented by Cabanis, were sufficient to convince their author that if there be a soul, its nature depends entirely upon the condition of the body.

The great stumbling block to materialism since Greek days had been the source of motion. For it has usually been held, as we have previously repeated, that motion could only be initiated by something immaterial. Even the Greek materialists—the Atomists—were hard put to it to account for motion, and assumed an absolute and infinitely extended space with a fixed up and down through which the atoms were eternally falling. When they came to animal motion, they clung to the old theories of a soul as its source and, making the soul material, made it as immaterial as they could—a very attenuated fire. The new materialists, after the sixteenth century, boldly maintained that matter was self-moving. Thus Telesio invented no external force to propel things through space. Force was inherent in matter. So in Gassendi, the atoms were self-moving. This was taken up by La Mettrie and, in order to show the needlessness of a soul as a mover, he asserted that there is a motive force in all matter and that the soul is simply the motive force of organic matter.

But if the human body has no need of a soul, why has the world a need of God? La Mettrie does not deny God's existence; in fact, he believes that in all probability there is a "supreme being." But, contrary to Pascal, he maintains that whether there is or not is of no practical importance. An atheist—as Bayle suggested—could be as happy as a theist; and God's existence is of only theoretical interest. In fact, if atheism were generally accepted, society would be happier, for religious warfare would immediately cease. (We must not forget that even today in France the Revocation of the Edict of Nantes with its consequences and the earlier wars between Catholic and Huguenot are not forgotten.) This in itself would be a blessing, but it would be followed by men turning to the voice of nature which alone can lead them to virtuous happiness and away from superstition and idolatry.

This philosophy was duplicated by La Mettrie's friend, the Baron d'Holbach (1723–1789), whose famous *System of Nature* made such a stir in France and caused such trouble for its author. d'Holbach extended the mechanism of La Mettrie to the universe and showed that if the body needs no soul, the universe needs no God. It is, too, a great machine running according to its own laws. God is an intruder in such a system. The theologies which bring Him in are absurd and either picture Him as a huge man with all the psychology of man on a large scale or as a vague principle which is but a word. He, too, was convinced that by recognizing our mechanical nature and living in accordance with its dictates, we should be happier than when we are controlled by fear of a supernatural and avenging deity.

Atheism and materialism held a menace to the Church which is obvious. Very few of the pre-Revolutionists adopted them—whatever later historians may say—and they remained the creed of only the most extreme anti-clericals. During the Revolution they had a brief popularity, and atheists like Naigeon and Sylvain Maréchal achieved a certain reputation. But the bloodiest terrorists were believers in a God and Robespierre felt that God was guiding him in all his deeds.

One of the problems of the Encyclopædists (as we are using the term) was to provide the new non-clerical man with an ethics. This was done by Helvétius (1715–1771), who atomized moral man as Hobbes had the social. In Helvétius the spring of all action was self-interest. Though we may seem to be acting upon altruistic motives, in reality we are selfish and egoistic. We have no common good in sight, nor any supernatural felicity. We are living for the here and now. Our laws should therefore be corrected to increase man's interest here below and should recognize that an enlightened egoism is the only possible pattern for man's life.

Like Hobbes's pre-political man, Helvétius's human beings are fundamentally alike. This was bound to be true in any atomistic conception of humankind. Their actual differences are, however, marked and must be accounted for. The older ethicists were inclined to look upon them as the work of God who for some reason of His own had chosen to make some men stupid and some intelligent, some industrious and others lazy. But with the work of Locke and Hobbes behind them—to say nothing of atomistic physics—Helvétius was unable to account for things in such a way. No, man was man and therefore essentially homogeneous. Differences were due to education—today we should say "environment"—and were therefore eliminable. The Church was inclined to believe that what was the work of God could not be changed and that one must incline before the Divine Will. Helvétius, by tracing human inequality to education, seemed to imply that by standardizing education one could remove the inequality. A race of happier mortals would result, living a simple Epicurean life, surrounded by other equally happy friends.

The *Encyclopædia* itself was one of the means of propagating this useful information. It would spread the new knowledge and by means of education produce the new man. It would popularize descriptive—that is, positivistic—knowledge and thus rid the world of mystery and supernaturalism. For though one of its editors, d'Alembert, was a mathematician (or perhaps because he was) he emphasized the observation of fact and not the construction of theories as the basis of science. This was in turn founded upon the supposed empiricism of Locke, who was considered by the Encyclopædists to be one of their spiritual forbears because of his attack on innate ideas. Finally, it would show the utility of science, its rise as the satisfaction of human desires, its practicality. It must be democratized, made the possession of all—it corresponded in spiritual affairs to land in material. All had a right to share in it.

This interest in science as a liberator from superstition and as a practical benefactor was especially furthered by Diderot (1713–1784), who after d'Alembert's retirement was almost the sole motive power in the *Encyclopædia.* He was consciously fighting the warfare of science against religion, and if that warfare today is one of the potent forces in civilization, it is largely because of him. Before his time it was, of course, recognized that the Church's teachings were not in accord with those of science. But so long as the Church was able to silence men like Galileo, science was bound to seem somewhat illicit and disreputable. In Diderot and his group the battle was pitched in the open. No attempt was made to pretend that religion was metaphysical science or that the Bible was an allegorical account of Newton and Locke. Diderot frankly admitted and insisted upon the contradictions between the two sets of teachings and refused to compromise. His counsel was to be satisfied with science and forget religion and metaphysics, which was then supposed to be a kind of diluted theology.

But Diderot was not an atheist, though he admitted the strength of some atheistic arguments. Like Voltaire, he maintained that the adaptation of means to end, which the science of biology—just then nascent—was illustrating, was the most potent proof of deism. But he did not believe that God was any more interested in human beings than in anything else, and naturally eliminated from his theography all human traits but that of intelligence. He wished, as he said, to free God from the sanctuaries and make Him a constant companion. Yet he gave Him no more to do in the world than Descartes did according to Pascal, and it was evident to the Church-party that such a God—the God of pantheism—was as good as nonexistent.

Meanwhile Voltaire had, as I have said, introduced Locke to the French. Locke seemed to provide a means of proving that authority could not be a source of truth, since truth was, after all, a property of ideas and ideas were personal and not public. The new movement needed an epistemologist and found him in the Abbé de Condillac (1715–1780).

Condillac was in no sense of the word a materialist nor was he an atheist, though some of his critics of a later day seemed to think he was at least the former and wicked enough to be the latter. He attempted in his most important work, *The Treatise on Sensations,* to simplify Locke's theory of knowledge, eliminating "reflection" as a source of ideas and making sensation do all its work. This seemed to mean that all the furniture of the mind entered by sensory portals and that not only were no ideas innate but that the mind was incapable of producing any.

He assumed at the outset the Cartesian dual nature of man as material and spiritual substance, of which the soul, as the "subject" of knowledge, was naturally spiritual. The soul, however, was, until "modified" by ideas, utterly devoid of character. Spiritual though it was, it did not think until it had a subject matter, and existed merely as that which when acted upon by the proper stimulus would produce ideas—or sensations. Condillac was not concerned with how the sensations reached the soul through the body, but of how they were transformed and combined and so on, after reaching the soul.

He assumed, moreover, the analytical postulate of Descartes that was the backbone of all atomism,—namely, that things in general could be broken up into further indivisible parts, and that these parts were externally related to one another in wholes in such a manner that their original characteristics were never wholly lost and were therefore recoverable by analysis. We have seen atomism in Newtonian physics in the bits of matter moving in free space in straight lines; in political science, in the social atoms of Hobbes; in ethics, in the selfish man of Helvétius; and now we find it in epistemology in the atomic sensations of Condillac.

A sensation in Condillac might be, as M. Raymond Lenoir has pointed out in his excellent study, either the physiological conditions which give rise to sensations, or the affective aspect of sensation—usually but not always called "feeling" (*sentiment*), or the representative aspect of sensation. Thus a sensation of redness may be the optical nervous system, the "feeling" of redness—its agreeableness or disagreeableness—or the perceived redness itself. In general it was the third of these, and Condillac's problem was to derive all our ideas and faculties from our awareness of sensory impressions.

His method of doing this has become classical. Diderot in his *Letter on the Deaf and Dumb* had suggested decomposing a man's mind to see what it owed to each sense. Condillac imagined a bronze statue who would have a soul, but a soul utterly innocent of thoughts. He then selected a single sensation, that of odor, and gave that to the statue's soul and from its properties deduced a great part of the statue's consciousness.

Any sensation, Condillac finds, has the following characteristics: specificity, its peculiar nature, the redness of red, the sugariness of sugar, and the like; an affective coefficient, agreeableness or disagreeableness; a certain duration; and, because of its specificity, a felt similarity or dissimilarity to others. Once, then, a given sensation enters consciousness, the soul can be aware of any and all of the above; and the faculties of the soul become operations which are functions of the above. Thus the awareness of a sensation's specificity is the soul's "attention"; to attend to a sensation is to be aware of its specific quality. The awareness of its affective coefficient is desire or aversion; we desire the agreeable and shun the disagreeable. From the lingering on of traces of a sensation after the sensation has disappeared comes memory. And an awareness of the similarity or dissimilarity of two or more sensations is comparison, from which arises judgment. When sensations are repeated, the faculties appropriate to them become strengthened by habit. It sharpens our attention, our memory, our judgment, our imagination. It is, however, the purely passive repetition of the same experiences and in no wise anything that "the soul" itself originates. Since the peculiarities of our faculties are almost entirely dependent upon habit, it is easy to see what a position habit occupied in the psychology of Condillac. Good ones were all-important, for upon them depend not only the happiness but the wisdom of the individual. And when one wished to be cynical, one said, "What are the operations of the soul but habit?" thus puncturing the pretensions of men who saw in them intuitions of Platonic forms, divine revelations, or beatific visions.

So far the mind of the statue is just sensation. Whence comes its awareness of a self? The question is not, What is the self? but, What is the self for the statue? For it, then, the self is simply the collection of sensations which it is immediately experiencing, plus those it remembers. This is, of course, the Humean self, but Hume was not interested in reconstructing it. There was no saying in Condillac that the self was "nothing but" the Humean bundle of perceptions. For the perceptions were "modifications" —whatever that might ultimately mean—of the spiritual substance or the soul. But our knowledge of our selves could be synthesized out of the bundle of perceptions, and it is knowledge which is in question. Since many of these sensations are somatic sensations of breathing and of the general bodily system, there is a certain continuation of the self in consciousness, a certain underlying permanence as a groundwork of the rest of our knowledge.

But our awareness of continuance implies a notion of time. Knowledge of time is relative to the duration of our sensations. So long as a single sensation endures unchanged, we should have no consciousness of the passage of events, for all our attention would be occupied with the single sensation in the focus of our attention. Thus, no matter how long it might last, as measured by a chronometer, to us it would be but a single moment. But as soon as it ceased to be and another took its place, then there would arise the feeling of succession and we should identify ourselves with each new sensation as it appeared. But even then we should have no idea of passage, of the disappearance of one sensation and the appearance of another, for the sensations would be isolated discrete things chopped off from one another, and the idea of time is of one moment melting into another, a continuity of passage. That is provided by the lingering on of a sensation as a memory-trace after it has disappeared from the center of attention, so that as sensation succeeds sensation, there is always a dim "fringe" of the sensation as it goes which overlaps the intensity of the new incoming sensation. By means of these fringes the statue acquires an idea of the past. But how about the future? That is accounted for by the repetition of groups of sensations, so that we learn, having experienced one of the groups, to expect the others. We form a habit of judging that after one sensation another must follow. It is obvious that to judge that a certain sensation must follow another is not the same experience as the felt approach of the future. That state of tension, of "seeing" the future made present, as one sees the far end of a belt in a factory approaching the wheel over which it must pass, is a unique thing and not simply a judgment that the future must arrive. Thus we judge that some day we must die; but that is quite different from feeling the approach of death. Condillac, however, does not seem to appreciate this difference, for it was one of the common dangers of his method that those using it mistake an account of how an idea could be logically generated for an account of how it historically arises. Hence Condillac saw no reason why the statue could not reason back as far as it wished into the past or as far forward as it wished into the future and thus construct the endless time-series. This, regardless of the fact that our memory is very short and our powers of anticipation probably shorter.

Space and the external world are constructed differently, but still logically. For now apparently the statue reasons. It sees that bodies in contact do not fuse, and thus derives an idea of duality. The statue moves accidentally and, moving, hits a part of its body. When it hits its own body it finds it has two sensations, one in the organ that does the hitting, one in the organ hit. Both of these sensations are its own. But when it hits a physical object not its body, it finds that only the hitter feels and the hit remains insensitive. It compares this to its previous experience and concludes that the hit must be other than itself. Thus it concludes that it is not alone in the world. But here again it is doubtful whether one's ideas would grow in this manner. The statue hitting an external object would never feel the object's externality; it would simply have a tactile feeling associated perhaps with a visual sensation. But of course if it already knew—as Condillac did—that the object was external, then it might use its feeling of resistance as a sign of the object's externality.

General ideas are, as we have said, abstracted by the mind from sensations. The common properties of two or more sensations are fused into a new idea which skims them off of their objects and retains them alone. For thought is found to have ideas of, say, "redness" which in themselves are not duplicated in the physical world. Out there there is no disembodied redness; there are only red things. The color, however, of these red things is identical in them all and therefore forms one idea in the mind. Condillac holds this to be true of all abstractions, and so his disciples maintained that the proper occupation of the psychologist was the tracing of our abstract ideas back to the sensations from which they arose. When an abstract idea was complex, like beauty or goodness, the task would involve a certain amount of analysis, or the disassociation of the parts which were compounded to produce it. We should thus discover the true origin of our abstractions in sensation and could truly say that all our knowledge came from "experience." But what we could not say was that our knowledge of how to reach "experience" came from experience, nor that there was any logical reason why sensations should combine now to form valuable ideas and now to form trivial ones. This practice of analysis was, of course, a derivative of the Cartesian method, though its results were supposed to be entirely different. It somehow appealed to the French mind and soon was applied not only to the study of ideas but to everything. It was an outgrowth of the general atomistic attitude which seemed to presuppose a greater "reality" or, at any rate, a greater importance to the elements out of which things were made than to the things themselves. Nor were its results trivial, for two of them were the French psychological novel as exhibited in such a man as Henri Beyle and the analytical chemistry of the present day which began with Lavoisier. The psychological effect of the analysis of ideas was to show the world that no matter how lofty and seemingly ætherial an idea might be, its roots were in the soil of sensation, and that there was no need to assume a special supernatural mode of their entry into human life.

But one thing Condillac did was less agreeable. That was to make people believe themselves entirely passive. La Mettrie had called them machines; Condillac seemed to be calling them Æolian harps which gave forth only the tunes which chance winds happened to blow across them. They were sensation makers but seemed to have no more part in the actual production of a sensation than a lute has in the notes it produces. This was rather humiliating to human pride, but the followers of Condillac were anxious to make men as little marvelous as possible. They wished to remove the mysteriousness from life and to spread about the notion that we all were just like the rest of nature, and not the specially favored children of a philanthropic God. Yet Condillac himself had said that the soul—though characterless without sensation—was nevertheless active at least in remembering, for then it had "within" it the cause of its sensation. It was, however, passive in sensation and, as it would have no memory without sensations to remember, it was not a far-fetched conclusion that its activity was quite a secondary function.

The supposed passivity of the soul became the battle ground of succeeding philosophers. Both parties saw in it the denial of man's supernatural origin and destiny. This was an encouragement to the rationalistic Revolutionists to perfect their state here on earth, but to the Catholics a denial of their whole philosophy. About the question of man's passivity raged the battle, with the rationalists coming out victorious. But the Revolution was also fought by the sentimentalists, and they were not so inclined to accept themselves as the plaything of mechanical forces.

There were, of course, certain ethical consequences which seemed to follow from "passivism," primarily that man could only be stirred to action by some force of the nature of sensation. Such a force was found in pleasure and pain, and there naturally arose an ethics based upon the hedonistic principle. But both the Catholics and the sentimentalists rejected this, for they conceived of man as the seeker after nobler goals. It was useless to tell a man to be, say, honest or patriotic, if his sole possible motives were pleasure and pain, unless patriotism and honesty were pleasurable to him. And as they knew that often we must do unpleasant things, they decided that a philosophy which precluded doing such things must be abandoned.

The tradition of Condillac was carried on by a group of philosophers called Idéologues, of whom Destutt de Tracy (1754–1836) was the leader. Ideology, a term invented by him but abused and ridiculed by Napoleon into a term of reproach, was the analysis of ideas into the sensations from which they arise. The spiritual substance of Condillac disappears in ideology, leaving only matter and ideas. As a science, Destutt de Tracy declared, ideology was a part of zoölogy, which horrified his Catholic and sentimentalist opponents; hence thinking is a purely animal function, arising as it does out of sensation, and the gulf between man and God is widened.

The four faculties of thinking are more clearly transformed sensation here than they were in Condillac. Sensibility is the sensations received through the nerves; memory, simply internal impressions—the images of Condillac; judgment, the sensation of relation; will, the sensation of desire or of pleasure. Will, therefore, which was the pet faculty of the "activists," was just as passive as any of the other faculties and differed from them only in the fact that it was always the cause of our happiness and unhappiness.

Our knowledge of the external world was accounted for in a manner similar to that of Condillac, except that Destutt de Tracy elaborated the argument. Our powers of movement meet with resistance from physical objects and, hence, with frustration. Since we cannot will both to do something and not to do the same thing at the same time, there must be something not oneself which is the resisting object. This reasoning may be good; but what sensation does it correspond to? If our minds are nothing but sensations, then every bit of reasoning must be a sensation in disguise, and it was next to impossible to discover the sensation disguised as this elaborate inference. Moreover, curiously enough, the very opposite was being preached by Fichte at the same time in Germany, for he thought he had found excellent reasons why the Ego might will its own frustration.

The zoölogical aspects of ideology were delineated by Destutt de Tracy's friend Cabanis (1757–1808). La Mettrie had roughly suggested that the human mind was a function of our physiology and that the ideas one had varied with one's age, sex, health, and so on. Cabanis in his *Relations of Man's Body and Mind* studied this matter in detail and concluded that our ideas vary with our age, sex, "temperament," health, manner of living, and climate, though he did not deny that, once produced, ideas had a counter reaction upon our bodies. His purpose was to show that the same laws which govern the body govern the mind, by which he meant nothing more than that there were dependable and regular laws for our mental life. For his opponents still seemed to believe—as the post-Kantian Germans will—that the existence of a "mind" is proof of the existence of non-lawful things, minds being held to be above laws—free. His purpose was, in keeping with the encyclopædic tradition, preëminently utilitarian; he wished to use his knowledge for therapeutic ends. And, furthermore, he made the customary disclaimer of any metaphysical end; he was not discussing "primary causes" since they are open neither to examination nor doubt.

Physiology, ideology, and ethics are all grouped together by Cabanis as one single science, the science of man. For ethics is an affair of pleasure and pain and these affections are sensations. Thus the physiologist, by studying the causes of sensation, has in his hands the secrets to all human life. Physical sensibility, or the power of organic matter to react to stimuli, is the primitive term in the science, the fundamental fact upon which all the rest is based. It gives us an idea of our own existence and—he acknowledges here the priority of Destutt de Tracy—through the resistance of physical objects, an idea of an external world. It is what is directly modified by age, sex, and the other determiners of ideas and, through it, the ideas themselves. Modifications of age, sex, temperament, and health, are as physiological as are our physical habits. Changing the body, they change its sensitivity, making it sharper or duller, opening its channels to new experiences, closing them to others. Thus, mankind is more definitely a zoölogical specimen than it had been before, a machine, as it was said later, for producing sensations.

But by the end of the eighteenth century the Revolution was weakening its hold upon men's imagination, and there was demanded a doctrine which would give the individual more play in controlling his destinies. After all, the sight of a Napoleon was not likely to inspire confidence in a theory which made man nothing but the play of external forces. Moreover, the Emperor himself was not anxious to encourage a philosophy in which the will was given a subordinate place in human affairs. If to will was to follow pleasure and avoid pain, by what right did he punish the anti-imperialists? Were they not simply obeying the same physiological laws as anyone else? And what became of "authority" under this system? Was not each man told to follow his individual sense of right and wrong and not to bow before the common authority of the state?

The biggest blow dealt to ideology was the closing of the Institut Français in which it was intrenched and its reorganization minus the philosophical section. This deprived ideology of its quasi-official position as the approved doctrine of the government and made it simply the bizarre notions of a few revolutionary cranks. One of its upholders still survived in polite circles, the professor Laromiguière (1756–1837). He, however, in keeping with the spirit of the times modified it to conform with the demand for "activity," and pointed out that there were obviously certain faculties, such as attention, which could not be passive. When man attends to something, it is he himself who is the cause of the operation. "Is it not absurd," said Laromiguière, "to say that an active faculty is only a passive faculty transformed?" The affirmative answer seemed necessary, largely because the causal postulate of the Greeks was still in force.

The details of Laromiguière's system need not delay us. He is a symptom of the growing desire for egotism which was at the time so prominent in Germany. He became one of the most widely read philosophers of his day and was reprinted long after the basic tenets of ideology had become out of fashion. The full flower of egotism, however, bloomed in Maine de Biran. But him we shall leave for a later chapter.

While the followers of Condillac, or, as they were more popularly called, the Voltaireans, were preaching the authority of the individual's reason, the followers of Rousseau were preaching the authority of the individual's "feeling." That something non-rational had cognitive powers of the highest degree was, of course, in Pascal and was part of the great mystic tradition. But the "feeling" of Rousseau was not only the mystical "heart" of Pascal, but also the mind's "native sagacity" of the English Platonists.

The metaphysics of Rousseau were most definitely expounded in the famous *Profession of Faith of the Savoyard Vicar,* a philosophical credo inserted in *Emile.* Therein he makes it very clear that he believes reason to be deceitful, the tool of atheists—"philosophers"—which breaks down the unity of the self into a mass of sensations. For him, on the contrary, the self is a permanently identical unit, the subject of knowledge, dominating and controlling its little world, not enslaved by it. Its unity is brought to awareness in "feeling": we feel our self-identity, we do not reason our way to it. Thus there is no need to pursue the Cartesian method of universal doubt for the establishment of our existence. One has only to turn his eyes inward and the inner light will guide one.

The inner light not only reveals to us a self, but a self which is active in binding together our impressions—the self, in other words, of the English Platonists. This self was active in judgment, though passive in sensation. Sensation presents isolated objects to the self; by judgment they are "put side by side" and compared to bring out their similarity and dissimilarity as well as their other relations. Such a power of judgment could never be in a purely passive being. The eye might perceive passively a large stick beside a small one and yet not derive the idea of relative size from them. For Indians—of whom Condamine probably informed Rousseau—have five fingers on each hand and yet have no idea of a number greater than three. The activity of the self also accounted for the unity of perception by incorporating into one object the colors, sounds, odors, and so on which come to us through separate channels and yet seem to be but the properties of one "thing." The redness, sweetness, shape, odor, of an apple, for instance, all seem to be united in the apple, though—according to Rousseau—if sensationalism were true, they ought to be perceived as separate and detached sensations.

We shall not go into the theology which the inner light established, the existence of a first mover, of a divine artist who planned the harmonious whole which is the universe. Instead, let us note that it also discovered right and wrong as well as truth and falsity, so that both ethics and metaphysics were its domain. It finds that it is essentially free, able to do good or ill. If it does ill, it is because of the abuse of its faculties. We have been given ways of avoiding ill, signs of physical evil such as pain, and yet we persist in overlooking them. Nature is good but man is evil. Where can one find the uncorrupted natural man?

The "natural man" is a concept more than usually difficult to define. In essence it probably means little more than man as he ought to be. But added to that is the notion that man as he ought to be really exists—somewhere, if not in France. He is perceived through the differences which separate race from race in the conceptions of right and wrong which are common to all. This community of opinion—in many of Rousseau's contemporaries called "common sense"—seems at times to be the essential opinions of mankind. Thus, natural man is equivalent to the general run of mankind, a sort of statistical mode.

On the other hand, Rousseau sometimes speaks as if the natural man were the rural dweller as contrasted with the urban dweller, for "nature" has often meant that part of nature which is least modified by human beings. Still again it means the "noble savage" and in other places a more "primitive" man supposedly having lived in an earlier period of human history.

Let us not, however, attempt to define too sharply Rousseau's conception of natural man, contenting ourselves with the knowledge that he believed men of his own civilization to have fallen from grace. Their fall, as in Greek and Latin primitivism, was caused by the acquisition of riches and material comforts. Thus, what to many of Rousseau's contemporaries was social progress was to Rousseau in many of his moods social degradation.

Rousseau's problem as a social philosopher naturally was that of finding a means for freeing men from the chains of society. Such a means was best provided by the kind of education which he himself had worked out in *Emile.* This education was based upon two fundamental ideas. First, that each faculty of a human being was destined by God for a purpose which the student of psychology could discover by a means best known to Rousseau; second, that the proper aim of all education was ethical. The training of a man's faculties as they awakened would produce an individual self-dependent and therefore free from the domination of social prejudices and the corruptions of civilization. Ethical training would insure man's happiness and bring it about that the person educated in the Rousseauistic school would be not only a recovery of the natural man but also a sage.

Curiously enough, this emphasis on human independence was by no means consistently made by Rousseau when he wrote political philosophy instead of the philosophy of education. His strictures upon human liberty were as rigid as those of any absolutist. He presupposed a social atom as free and independent as the social atom of Hobbes. But, as in Hobbes, man gave up his freedom, at least in part, to enter into a society which would assure complete sovereignty. The fundamental difference between the Hobbesian social compact and the Rousseauistic is that in Hobbes the paths of the social atoms are constantly intersecting and thereby producing collision and frustration, whereas in Rousseau there is no reason to believe that they are not harmonious from the first. Why Rousseauistic man should ever have formed a state will always remain a mystery, though Rousseau attempts to explain it by the theory that society recovers for man those natural rights which an isolated existence would endanger. Yet it is clear that natural man, being essentially good, could have entertained no idea of infringing upon the rights of his fellows.

Once the state has been organized, the Common Will has absolute sovereignty over all the elements which go to make it up. A new person is created, over-individualistic and almost supernatural. Its decisions cannot be questioned. Though Rousseau maintains that there are certain limits to its power, in that it can demand of the individual the abandonment of only those rights which might conflict with the rights of the community, nevertheless, in practice these limitations are negligible. As Monsieur Duguit has pointed out, the rights he retains he retains as man; as citizen he abandons all. And as an individual living in society cannot live now as man, now as citizen, his personal will to all intents and purposes dissolves into the will of the state. It is true that Rousseau believes that since the will of the state is but the collection of the will of all the citizens, the citizen in obeying it is obeying himself. Yet the fact remains that human beings do find themselves in conflict with the will of the state and at such times the knowledge that they are in conflict with themselves alone is of small comfort to them.

It is clear that in Rousseau the two strains, which we distinguished in the thirteenth century, of rationalism (Thomism) and voluntarism (Scotism) intermingle but are not reconciled. He is thoroughly convinced, like the Neo-Platonists whom he admires and emulates, that there is an idea of the good which transcends, yet molds, human conduct. At the same time, however, his love of freedom and his incapacity for self-discipline make him see in human volition and power a value which is in itself of unquestioned supremacy. In his rationalistic moods he pleads for submission for the sake of superhuman values. There is no talk at such times of egoistic happiness, of pleasures which, though intense for the person who enjoys them, bring pain to others. He has nothing but scorn for his one-time friends among the Encyclopædists to whom pleasure and pain are the only motives of conduct. He speaks then of moral pleasures, of the happiness which comes from doing the right whether it cause immediate satisfaction or not. But then, as if he realized the restrictions of obedience to duty alone, he swings into voluntarism and extols freedom, individualism, and the rights of the one against the many. The same motives which led Duns Scotus to declare that the sovereign must be obeyed regardless of the apparent right and wrong of his commands, that insistent desire for humiliation which was so characteristic of the Franciscans, expresses itself in Rousseau in the merging of the individual into the common Ego, as if that which could not be free in itself would find a vicarious satisfaction in being identified with a will which was beyond criticism.

The philosophy of Rousseau was never very clearly articulated. Like so many other of the most influential philosophers, it was his ambiguity which was more pregnant than his clarity. Men reading him found here and there a phrase which confirmed them in their prejudices, and did not stop to reconcile inconsistencies or even to detect them. His followers were not among men of reflection in France, but among men of action. The most famous of them was, perhaps, Robespierre, who in spite of his bloodthirstiness was a passionate admirer of Rousseau. In fact, Volney, a self-styled Voltairean, noted that the Rousseauists were inclined to intolerance and hatred and that, conversely, the most vicious of the later Revolutionists called themselves for the most part disciples and admirers of J. J. Rousseau.

Among the philosophers Rousseauism was an expression of gentleness and human sympathy. Its most famous spokesman of the revolutionary period was Bernardin de Saint-Pierre (1737–1814), best known to American readers for his *Paul and Virginia.*

Bernardin de Saint-Pierre strikes above all the sentimentalist note and believes that when man begins to reason, he ceases to feel. Ceasing to feel, he is thrown into the most erroneous and extravagant positions. Man is distinguished from other animals by his religious character, which is an affair of the heart rather than of the reason, *"moins une lumière qu'un sentiment."* When the heart is weakened, corruption sets in. But the heart in Bernardin de Saint-Pierre is more definitely the heart of Saint Bonaventura than of Rousseau. Religion for him takes the place of philosophy, and religion wishes us "to lie down, not to stand up," "not upon the theater of the world but resting at the foot of God's throne, not worried over the future, but confident and calm." Philosophy, on the other hand, which springs from the reason, is the source of all our troubles. Nations which are supreme in reason are miserable in their bad government, their passions, their discord.

We must therefore distrust it and all its works and rely on that other more noble and constant faculty, feeling.

He is so vehement against the reason that he attacks the Cartesian "I think, therefore I am" and substitutes the Rousseauistic "I feel, therefore I am." For he wishes to avoid the impression that thinking, presumably something rational, reveals the essence of man. But what is feeling? Not sensation nor thinking, but what corresponds in humans to animal instinct. It is what arouses our sympathy with Iphigenia at the altar and Clytemnestra in tears. It is also what guides us in moments of perplexity. Reason makes men of wit in civilized society, feeling men of genius in times of so-called barbarism. Reason varies from age to age; feeling is always the same. Reason divides man from man; feeling unites them. Reason always troubles us, disturbs our peace, proves the existence of evil; feeling is always pure in its desires; it seeks the goodness in the world, and gives man an impulse toward sublimity.

There are thus two powers in man, the animal and the intellectual, not unlike what Bergson in our own day has called intuition and intelligence. Usually philosophers have seen man only as a brute, a mass of organic matter, or have intellectualized him into an abstraction. He has been studied, scalpel in hand—this is a thrust at the analysts—and, having been dissected, is found to be dead. The true philosopher would see him as a harmony of both natures, the animal aided, but not controlled, by the intellectual.

Bernardin's sentimentalism is in accordance with his view of the universe as an harmonious whole, in which the means are perfectly adjusted to their natural ends. To study Nature intelligently, all the parts must be linked together. Then one will see that she is a consequence of the universal conformity of things, a great harmony made out of the union of contraries. From this follow certain natural laws which are not the laws of physics but those of æsthetics. They are exemplified in the order, the harmony, the repetitions, the progressions, the contrasts, etc., of natural things. Such laws are of interest to the historian because they are one of the very few cases in which a philosopher has tried to articulate the æsthetics of Nature, and they illustrate how trivial and misleading such an exercise can be. All of them seem to prove the utility of the universe to man, that it was made to be the theater of his earthly life. We shall not cite the details of this proof, as they are well known and pathetically silly.

Most of Bernardin's contemporaries saw how weak a mind was his, although he was made Professor of Ethics at the newly organized school of the revolutionary government. But there was something about him which commanded respect, and his reputation was by no means small in the literary world, whatever it was in the philosophical. Moreover, there was a current of cabalistic mysticism then abroad in Europe, whose French spokesman was Saint-Martin, *le philosophe inconnu,* in which current Bernardin de Saint-Pierre was one of the most intelligible strains. But his most important service was in keeping alive the non-Catholic but religious spirit which would appear after the Revolution in Mme. de Staël and Chateaubriand. Both of these latter figures preached a kind of sentimentalism and both redirected French thought toward religion, Mme. de Staël toward Protestantism, Chateaubriand toward Catholicism. She had the much keener intellect of the two; he had, perhaps, the greater influence in a country which was by long tradition what he was urging it to become.

The development of a new Catholic philosophy in the early years of the nineteenth century we shall postpone until a later chapter. At the close of the eighteenth century philosophy had, as I have suggested, fallen into disrepute, not only because it was popularly blamed for the Revolution, but because of Napoleon's active opposition to it. It must await for its rebirth the rise of a more liberal government.

Chapter VIII

GERMANY FROM LUTHER TO NIETZSCHE

German intellectual life in the sixteenth century was largely devoted to the intrenchment of Lutheranism and to natural science. The philosophic problems which were arousing the enthusiasm of Italy, and later of England and France, were at that time in Germany subordinated to theology. There had, of course, always been a strong mystical tradition there. There had been Meister Eckhardt in the fourteenth century, and his contemporary, Tauler; there was Schwenkfeld in the sixteenth, and Valentin Weigel, and finally the most famous of them all, Jakob Boehme (1575–1624). Besides these individuals, there have been powerful associations of mystics, like the Friends of God and the Brethren of the Free Spirit. Mysticism, however, is not a growing tradition, but consists largely in a restatement in new symbols of very ancient beliefs. Then in the seventeenth century Germany received a blow from which it took her two hundred years to recover. The Thirty Years' War not only reduced her economically to poverty, but intellectually to idiocy. Having lost the thread of her cultural tradition, she took to apeing the manners and ideals of foreigners. Every princeling, we are told, took as his model a German version of Louis XIV, reproducing the sensuality of Versailles with none of its refinement or intelligence.

At length, however, there appeared in the seventeenth century a man who, if he was a courtier, a flatterer, and, it must be admitted, something of a sycophant, yet had a mind which was one of the best in Europe. Gottfried Wilhelm Leibnitz (1646–1716) was one of those extraordinary beings who seem to have a talent for everything. He was a mathematician, a philosopher, an historian, a diplomat, and something of a physicist. He may be properly said to have given to German philosophy a rebirth.

Leibnitz in philosophy built on a Cartesian foundation. He, too, attempted to use the mathematical method and to take as his premises clear and distinct ideas. But he found it hard to accept the Cartesian definition of material substance as pure extension. For, he argued, extension is a geometrical conception and implies no more than the existence of shapes. But two shapes may be the same, and yet only one of them material. Thus the imprint made by a seal in a piece of wax has the same shape as the seal, but it is not solid as the seal is. From the point of view of extension, however, the two are identical. But one is solid and the other is nothing but extension. Wherein does the difference consist?

It consists in the ability of the solid shape to resist the impinging forces of other material objects. This power of resistance is in a way the measure of an object's materiality. It has nothing to do with its extension, for two bodies occupying the same volume and having the same shape may be unequally resistant. But resistance is not merely passive, it is always active; for, as physics showed, the forces of action and of reaction were equal. Thus material objects became for Leibnitz centers of radiating force. They are the material atoms of Telesio and Gassendi without the matter. Force exists in varying degrees. The dullest approaches brute matter but it is not a thing separate from it.

The centers of force in Leibnitz are called "monads."

Each monad is an individual and simple thing. Being simple, it has no parts and, having no parts, can never be either generated or dissolved except by divine creation or annihilation. For generation is either an assemblage of parts, or growth. But both presuppose a condition in which the thing generated would be incomplete. The monads, however, being simple can never be incomplete—they are "all of a piece." Hence from the human point of view they are eternal.

Second, the monads cannot act upon one another nor be acted upon. For (because of the theory that causation is a transfer of attributes from the cause to the effect) to act upon other monads would imply the possession of attributes and the monads are simple. All that can happen to a monad is that it mirror or "perceive" the rest of the universe. But this perception must consist in a change strictly internal to the monad and not the effect of causes outside it. Its perception of the world is like a dream controlled only by God. It is, however, a dream of which the monad need not be aware, a dream confined—to use a popular terminology—to the subconscious.

But how can a perception be subconscious? We are used to maintaining that a perception is by definition what we are aware of. Leibnitz, however, points out that our perceptions are enormous complexes—though they seem simple—of tiny subliminal perceptions. When the wind rustles through the tall grass, we can hear a confused sighing which seems to be relatively simple. In reality it is the sum of all the tiny rustlings made by each blade, none of which would be perceptible by itself. So an odor or a taste is not the homogeneous thing it seems, but, as analytical psychology has shown for many such experiences, a compound of a high degree of complexity. It is possible to recapture by trained introspection some of the grosser elements of conscious perception, but the ultimate units always elude even the sharpest attention. They are the perceptions of the simple monads.

The simple monads are then souls, having a low degree of consciousness. But the essence of consciousness must then be activity or force, since that is the essence of monads. That conclusion is welcomed by Leibnitz, who sees consciousness as effort, will power, action. There is, therefore, no essential difference between matter and mind; matter is made up of monads but slightly active and therefore but slightly conscious; minds, of monads which are highly active and highly conscious. One could grade the monads in a continuous series from the lowest—whose activity would be the closest approximation to zero—to the highest—whose activity would be infinite. The lowest would be brute matter; the highest, God. As each monad mirrors all the others, the main difference would be that God sees all things with infinite clearness and distinctness, whereas the vision of matter is dull and confused. We are back at the Neo-Platonic hierarchy of active beings with emanations left out.

If the human being is composed of matter and mind and monads cannot interact, how can Leibnitz explain the apparent interaction of minds and bodies—the great puzzle of the seventeenth century? Psychophysical interaction is but one case of apparent causation in the world and presents no peculiar difficulties. For all causation is equally difficult or easy to explain. There are, says Leibnitz, three ways in which an apparent case of causality may be accounted for. The first is by action of one of the two events upon the other, the second by the action of a third thing upon the two, the third by their both having been so made originally that when one appears, the other will appear. As an illustration, he uses the famous case of two clocks which are always synchronous. According to the first explanation, their synchrony is due to the action of one clock upon the other; according to the second, it is due to the constant regulation and interference of the clockmaker (or some other outside cause); according to the third, it is due to their having been so perfectly constructed that they always keep the same time.

The first two explanations are automatically ruled out by the Leibnitzian principle of the "windowless" monads which cannot interact. Hence he concludes that the perfect clockmaker is God who has so created the world that it obeys His intent and carries out His designs without a hitch. The mind seems to have a sensation because of something done to the body; the body seems to move because of something done by the mind. Yet, as a matter of fact, the harmony of the two simply occurs as the fulfillment of God's inscrutable purpose in creating the world. The very mechanism of the world is the unfolding of a divine plan; it is not the impact of physical masses that it seems to be. It will be noticed that this answer keeps the dualism of Descartes (and the causal postulate to a certain degree), the dependence of all events on God of the Occasionalists, and the non-interference of Spinoza. Leibnitz's diplomatic training in compromise stood him in good stead.

But the seventeenth century had another question to raise. If all that happens occurs because of a preëstablished harmony, how is man free to do or not to do? How is man held responsible for what he does? Was Judas or God Himself responsible for the betrayal of Jesus? The answer is found in the conception that freedom is self-determination. Since the monad only does what is implied in its own nature, it is self-determined. To be sure, it did not choose its own nature, but there is no "it" besides its nature. It and its nature are one. Thus, whatever the monad does, it chooses to do because of its peculiar constitution and not from external constraint. Hence it is free. God, to be sure, is responsible for making Judas's soul the kind of monad that would betray Jesus, but that is for reasons which we cannot wholly understand. All that we know is that Judas's deed led to a greater good than would have been attained without it, for God had the power to will any of an infinite variety of worlds and, since He is absolutely good, He could only have willed a world which is the best of all possible worlds. It was this apology for our planet which so aroused the laughter and contempt of Voltaire and which was one of the causes of his writing *Candide*.

The Leibnitzian philosophy was systematized and made into dogma by Christian Wolff (1679–1754), who dominated German philosophy until the rise of Kant, Mendelssohn, and Lessing. Leibnitz's own views were scattered about in short articles and letters, unorganized, like the man himself. Wolff attempted to make the general mass of details more rational but succeeded in depriving it of its charm and making it simply a great tightly woven system. It was more theological than ever, but the German mind—if there be such a thing as national minds—prefers insight to reason, and Wolff made theology as rationalistic as geometry. Leibnitz himself had proved by the geometrical method that the Count Palatine of Neuburg should be elected king of Poland in 1669, so that Wolff may not have strayed so far from his master's position as some have pretended. Yet the spirit of Leibnitz was inharmonious with his method, for the primary law in his universe was the "principle of sufficient reason," whereas the primary law of geometry is the law of contradiction. The principle of sufficient reason is not always logical or scientific; in fact, when it applies to God's acts, it is purely psychological. That God did this or that for sufficient reason meant simply that He did what He wished and His wishes were not subject to logical analysis. So that in the long run the theological views of Leibnitz were as voluntaristic as those of Duns Scotus.

Moreover, they were essentially spiritualistic. It is true that the distinction between matter and spirit had broken down, presumably, but the breakdown had been made at the expense of matter. The energy or force which was the heart of the monads was identical with conscious effort or will, and what the world seemed like was not the active atoms of Telesio but the great community of souls of Berkeley, except that the souls of Leibnitz were of various degrees or levels. Matter thus was given a subordinate place in the system; was, in fact, more or less of an illusion. Thus the stricter rationalism of a Wolff was contrary to the spirit if not to the letter of Leibnitz.

The Leibnitzian community of souls was free, yet operating in accordance with a law laid down for it by the chief monad who had created it. Since the souls were individuals, they could never be thoroughly understood by scientific means, for science deals only with classes. Since they were spirits, a moral or æsthetic end is more fitting for them than a mechanical end—they exist for some good, not as parts of a machine. These elements of spirituality, moralism and æstheticism, the value of individuality, voluntarism or, if one prefer, dynamism, plus a fundamental anti-intellectualism will all become preëminent in later German thought.

About the middle of the century, while France was preparing to read the *Encyclopædia* and England to sigh over *Clarissa* and to laugh over *Tom Jones,* the attention of cultivated Germans was drawn to Greek sculpture by Winckelmann (1717–1768), to Greek æsthetics by Lessing (1729–1781), and to Greek philosophy by Mendelssohn (1729–1786). Aside from the positive results reached by these men in their specific fields, one result in common seemed to emerge,—namely, that ideas as well as customs are an "expression" of nationalities, so that—though they were not equally conscious of this inference—the final critique of an idea must not be logical but "practical."

This result was reached by Winckelmann's pointing out that Greek sculpture was molded by the Greek spirit, which in turn was an effect of climate, "national character," politics, race, religion. Hence, to study Greek art was to study the Greeks as a whole, to pursue the matter historically, not analytically. Art would be not a series of isolated units, each to be considered in itself for what it was æsthetically worth, but the continuous coming to fruition of something dark and mysteriously fertile which was the soul of a people. It is true that all works of art are also embodiments of Platonic forms but presumably each nation had its own peculiar way of embodying them.

What Lessing derived from this was that there must be a separation between the arts, for different Platonic forms were adapted to different mediums; poety could depict things in action, painting, things at rest. Lessing, now hailed as the champion of "classicism" because of his opposition to "mixed species" of art, his espousal of the *genres tranchés,* in reality was as "romantic" as the romanticists, for what he was seeking was a greater variety of art forms, greater individuality, and not greater unity and conformity. The *Laokoön* by itself seems like a plea for more reason and less "feeling" in art, to use a popular antithesis; but one has only to think of it in connection with the "Hamburg Dramaturgy" to place it in its proper setting. Art in Lessing, as in Winckelmann, was the expression of ideas; but ideas were valued not because of any correspondence to fact, but because of what they could do for the individual. They were "expressions," not archetypes or copies, and fundamentally they were expressions of national personalities.

The cult of national differences—which later was paralleled by the cult of individual differences—comes out especially clearly in Lessing's philosophy of history, *The Education of Mankind,* and in *Nathan the Wise.* The feeling back of such writings is that truth is not eternal, as Plato and Aristotle and St. Thomas certainly believed, but something growing and hence changing. Therefore tolerance is in order. Morality is independent of religion, as in Bayle, but it is not independent of a noble spirit. Thus ideas of all sorts are conceived as emerging out of the spirit and not the result of mechanical impact of the external world upon the spirit. But Lessing was not so aware as some later thinkers of the diversity of human nature. He depicted the various national spirits as following one another in a linear development, and not as simultaneously existing and conflicting. Religion, for instance, passed from the polytheists into the Jews, who developed monotheism as a tribal religion until instructed by the Persians that Jehovah was a universal deity; and so mankind progressed from age to age. But Lessing was still talking about mankind—in the manner of the English and French philosophers—and not about Germans, Frenchmen, and Englishmen.

That step was made by his younger contemporary Herder

(1744-1803). Herder boldly dragged the hidden premise of what we may now call cognitive—as distinct from ethical—voluntarism into the light of day. For him what Rousseau called "feeling," or, in accordance with English Platonism, "the inner light," was not only the source of knowledge but its judge. Each people not only had a right to its own art and philosophy, but a duty to develop them. Truths of the "deeper" sort—the word "deeper" was never defined—were necessarily diverse. The *genres tranchés* of Lessing became *cultures tranchées,* and the great wave of nineteenth-century nationalism as a philosophy was under way. It might be true that science had a kind of objective truth for Herder, that the law of gravitation, for instance, could not vary from nation to nation; but a close study of even Leibnitz will show that scientific truth is bound to be less important, less "real" than artistic and moral.

It is fairly evident to one who knows German history, that the theory of truth as expression was a protest on the part of the oppressed for a place in the sun. Germany was the poor relation of Europe at that time. Her art was borrowed, her science secondhand, her politics in a state of disintegration, her general prestige low. It was a great comfort to the youth of 1750 to hear that Germany had a language as good as French, that there were no universal rules for art, that she had a right to express herself as she saw fit. It meant a restoration of self-respect, just as the Neo-Celtic movement in Ireland and Zionism have meant a restoration of self-respect for the Irish and Jews. But the history of cultural nationalism in Germany had a subsequent development which neither Neo-Celticism nor Zionism have as yet exhibited. That the price of German self-respect was to be the great cult of "variety" and that that cult would bring about the moral chaos which is today prevalent in the Occident was foreseen by none. The Germans of that day thought they were freeing their country and all peoples for self-development. They hailed the French Revolution, when it came, with enthusiasm. But the philosophy of the Revolution was the exact opposite of what they were preaching. It was based on rationalism and sought the freedom not of Frenchmen and Germans but of Humanity.

It was fairly clear—or seems so now that we look back on it—that if the universe was at heart something spiritual and voluntaristic and that if ideas were expressions of hopes or desires and not copies of external reality in the Lockean sense, the status of Reason must be clearly delimited. It must be "shown its place," as the vulgar expression puts it, and so humiliated that it would stay there.

This task was accomplished by Immanuel Kant (1724-1804).

In Kant there converge two anti-intellectualistic strains, one flowing from the scepticism of Hume, which gave good reasons for distrusting physical science and the knowledge of the self, one flowing from the spiritualism or Neo-Platonism of Rousseau, which posited a supra-rational self to "create" relational links in the world and to be a judge of right and wrong. By accepting the sceptical restrictions of Hume, he was free to substitute for the reason the inner light. He would show not only that the reason was limited to knowledge of the surface of things, but that even within its limitations it projected into the world its own traits. To do this Kant first examined the possibility of knowledge.

Knowledge, said Kant, may be considered under two aspects, the sensory and the logical, the sensory corresponding to the terms of our experiences, the data, what-we-perceive; the logical corresponding to what we say or think about it. Thus a color is part of the sensory—or what he called the "æsthetic"—equipment of the mind; that this color is brighter than that, that the rose is colored, and the like, are expressions of our logical equipment.

Kant discovered what Rousseau and all the English Platonists had discovered before him, that sensations do not come to us raw, nor as isolated terms, but are interrelated. That patch of red, for instance, is to the right of that black ink-bottle which is upon that desk blotter. The sense data are always arranged in space. If now I turn my eyes inward and observe the passage of emotions and images and thoughts, as I might in a daydream, I notice that they too, however nebulous they may be in their outline, follow one another in temporal succession. I may imagine all the particular characteristics of any perceptual experience to vary; I may abstract from my intuitive data all their special individual traits; two things always remain: they are always in space and in time. The data of the "outer" sense in space, those of the "inner" in time.

As his predecessors had argued, the actual stuff of these experiences, the colors, sounds, odors, and the like, can be assumed to pour into our minds through the sense organs, nor is there any perceptual datum which cannot be thus accredited. As far as the subject matter of knowledge goes, the old Aristotelian dictum is true: nothing is in the intellect which was not previously in the senses. Except, as Leibnitz had remarked in his criticism of Locke, the intellect itself. Kant's exception is not dissimilar. The subject matter of knowledge comes into us entirely from sensation, but the subject matter is only a fraction of knowledge. Whence comes the relatedness of knowledge, the matrix of space and time? We have no space sense organs, no time sense organs. Space and time must therefore be innate within us and contributed by our minds to the perceptual data. We think that they are found in experience and abstracted from it; as a matter of fact, they are the conditions of experience and are given to it. They are prior to experience; they are necessary for experience; they are our way of seeing the world. And since we always see the world through them, they are as if they were objective.

That is why such sciences as geometry (which Kant falsely thought was a science of space) and arithmetic (which he equally falsely thought was a science of time) are possible. Their peculiarity is their absolute necessity and the fact that they actually discover new truths; they do not merely analyze already known concepts. It is impossible, of course, to make absolutely universal and necessary judgments about the facts of experience. Even the proposition, "The sun will rise tomorrow," is contingent upon a number of events of which we can know nothing; and the best we can say is, "As far as we know, the sun will rise tomorrow." But we do not say, "As far as we know, the sum of the angles of a triangle is equal to 180°." We say it absolutely and know that it is independent of experience—since experienced triangles never do literally obey the laws of geometry. It is true absolutely and universally just because it is prior to experience; it regulates experience; it is a law of our thinking. Experience must be judged by it, not it by experience.

When one turns to our logical faculty, one finds a similar situation existing there. In our attempts to judge the world, to organize it for scientific purposes, we find that we make use of four categories: the category of quantity, of quality, of relation, of modality. These categories answer the questions, how much, what kind, what caused the thing, and why (is it necessary?). We have no other ways of dealing with things logically. But have we any assurance that the world in itself is really broken up into quantitatively and qualitatively distinct entities? As Henry More had pointed out, our measurements are purely conventional; we cannot assume that there is anything real and absolute corresponding to our feet and yards, our pints and quarts. The very same object may be twice as large as one thing and half as large as another. So with our qualities; they are obviously relative to us, nor could we expect that minds different from ours would dream of utilizing them. As for causation, Hume had demolished that and shown that it was simply a human way of dealing with things. Modality is in the same situation; whether a thing be necessary or contingent is a question whose meaning exists for the human mind alone. Thus the four categories are to understanding what space and time are to the senses, and we can be said to know only the world as it seems, never the world as it is.

But is there no way of penetrating to the real world by means of inference? Kant's answer is a decisive negative and is based, first, upon an analysis of previous attempts which have been made to do so and, second, upon a proof that in one field at least no attempt could be successful.

The real world is supposed to contain the human soul, the cosmos as a whole, and God. At any rate, metaphysicians in the past have spent much of their time trying to establish psychological, cosmological, and theological theories, and such theories are very dear to all men. Kant first attacks the attempts at founding a psychology. Descartes's attempt is the most important, for it seems to make no presuppositions but to work itself out by the force of reasoning alone. Yet, says Kant, the proposition, "I think," can in itself contain no evidence of anything unless the "I" be surreptitiously invested with all the properties which the psychologist thinks he is proving it to have. But these very properties will be of the "I" as an object of experience —which is, of course, not the "I" of "I think"—and the "I" as the knower will always retreat to observe the "I" as the known. Once objectified, the "I" will be treated with all the categories that should be applied to the world of experience; but such categories are, as we are supposed to have seen, not indicative of objective traits of the world but of our way of handling the world.

When we come to attempts at a cosmology, the failure is even more lamentable. For here it is seen that our powers of reasoning are capable of proving both the affirmative and negative of the propositions which follow from the application of the categories. We shall not give a *résumé* of Kant's arguments here—they are reproduced in the Appendix—but shall state simply his conclusions. Under the category, then, of quantity, we can prove that the world is both limited in time and space, and unlimited; under that of quality, that it is atomic and infinitely divisible; under that of relation, that there are free causes (indeterminism) and that everything is connected by a rigidly determined set of laws; under that of modality, that it is caused by a being either in it or beyond it, and that it is not so caused. These are the famous antinomies and if Kant's reasoning is just, then the reason is incapable of giving a consistent account of the cosmos as a whole.

The last of the antinomies leads Kant over to a criticism of the famous proofs for the existence of God. By a refutation similar to Gaunilo's he demolishes the ontological argument; by a reference to the fourth antimony, he demolishes the cosmological argument (that the cosmos must have a first cause); the teleological argument—the favorite of Voltaire—that the world as a machine implies a mechanic to have made it and run it, fares better at his hands. He grants its religious value but points out its scientific inadequacy, in that it jumps from the empirical to the non-empirical—for how can what we experience ever lead us to infer the existence of a being who is by His nature beyond experience? It is perhaps a useful fiction for our thoughts, but we have no right to infer that that which makes thought possible is therefore existent.

We are thus left stranded, it would seem, with a world whose orderliness is simply the contribution of our mind. That science is true is because it is an expression of our nature, not because it is a reproduction of the world as it is. So a color-blind man might develop a science of vision in which the distinction between red and green or blue and yellow would not occur. Until he tried to convert others to his views, he would never discover how personal his science was. That we find our science true is because we are all constructed in the same way. Our reasons are identical, are super-individual; our minds all work alike. Hence we shall never know what the world is like in itself, and we shall never discover the human equation. Because of the high degree of similarity in the reason of all human beings, we all make the same errors; and a consistent body of science is possible. Or, to put it differently, the world is as if it were the experience of one self.

Metaphysics was thus shown to be presumably impossible. We could discover the conditions of knowledge, but never the conditions of things in themselves. That there were such things Kant never denied and, indeed, he assumed—against his principles—their existence as the cause of things as they seem. Otherwise they were held to be utterly unknowable; and a fact will be considered to be objectively true when it meets the conditions our minds lay down. This was the height of the introversion of philosophy, for it is clear that the mind could go no farther in making the world essentially a product of its own needs. Two schools were bound to arise from Kant, the first of which emphasized the subjectivity of all this, that preached the impossibility of going beyond things as they seemed, and explored the conditions of knowledge; the second emphasizing the unity which was in the world in spite of its dependence upon the mind, and seeking the cause of that unity. The second of these schools developed first.

It developed first because Kant did not cease philosophizing with the *Critique of Pure Reason,* but went on in his next book to justify almost all that he had previously denied. But he justified it not rationally—for he had proved the impotence of the reason—but non-rationally. That self which is active, which constructs a universe for itself out of the raw materials of sensation, is fundamentally a Will, not a Reason. As a Will, it made certain demands which had to be satisfied. Its reason floated upon the surface of things, but it itself as Will penetrated into their heart. What did it find there? What could it find but the stern ethics of Lutheranism? If Kant had been educated elsewhere—say, in Italy of the Renaissance—it might have been Machiavellianism. But as it was, his Will reasserted that high devotion to Duty and the other evangelical virtues which were characteristic of the ethical ideals if not the practices of Protestant Europe.

In order for the Will to carry men through to the completion of his appointed task, three things were necessary —the existence of a personal God, freedom of the will, and the immortality of the soul. God is needed to guarantee the value of what we strive for; He must be personal, the original of which we are the image, because otherwise He would not understand our ideals; they would be foreign to His nature. He is also needed to see to it that good triumphs in the long run; without Him we could never be sure that our efforts would not be in vain. Freedom is necessary because if we were determined in all our deeds, we should not be their real causes and hence should not in the last analysis be responsible for them. The man who is compelled to do the right is no more moral than the man who is compelled to do the wrong is immoral. Our acts must spring from us unconstrained, must be the results of our very innermost nature, if they are to have moral importance. Immortality is necessary, for, if our lives were cut short at death, to what end would our strivings have come? At any rate, we must act as if we were immortal, for only in a continued existence is there any possibility of finishing the moral task.

It will be noticed that Kant nowhere seriously doubted the universe's graciousness to man in accommodating itself to his scheme of values. It was a pure assumption that man had the power to be moral in the Kantian manner; there was no real evidence that this was so. Maybe the world is so constructed that our deepest wishes are frustrated or, at least, can be frustrated; maybe (if doing our duty involves immortality) we cannot do our duty; maybe our values are not so insured that, whatever happens, good will triumph. I said in the beginning of this book that tragedy was impossible except in a logical universe. In a universe which is run by caprice—and fundamentally all voluntaristic universes must be capricious—one may have bad luck; one cannot have tragedy. German philosophy, as it was developing at this time, was like the poetry of a man trying to escape tragedy, the logical and legitimate consequences of events. It would be incredible, if it were not a fact, that at the opening of the nineteenth century there were still men capable of asserting that the universe was concerned in their fate, was seeing to it that all would come out right in the end. Had any animal other than man imagined such a scheme of things, it would have seemed grotesque. But in the difficult language of Kant, on the contrary, it seemed sublime. Kant seemed to be at once a daring radical, urging the doing of one's duty for duty's sake and at the same time a pious conservative, differentiating between reason and faith, reserving "Nature" as a province for the former and God for the latter, much in the manner of Pascal.

We need not go into the details of Kant's arguments; what is important is their foundation. We see in them clearly and unmistakably asserted the proposition that we have a right to believe in the truth of things for other than logical reasons. It makes very little difference what things Kant asserted were therefore true; what makes a difference is that the principle of the practical nature of at least some kind of truth was asserted. For after that time it will be an easy step to extend the principle to all kinds of truth. And that step will be taken. The Will is coming into its own. Up to the time of St. Thomas, the Socratic tradition of the primacy of the reason in matters of conduct had been dominant in spite of the Sophists and the Latin fathers. Now things were becoming reversed.

The immediate successors of Kant lost no time in putting their gains to good use. Ever since Leibnitz's time, the suspicion had been growing that science was superficial and, though it might have a limited truth, it was basically of no importance. In Leibnitz it explained the interaction of the monads by the laws of causation, and the monads could not interact. To the generation of Lessing and Mendelssohn, it denied the individuality of men and of nations; it was the great leveler. In Kant it was the instrument forged by the reason for understanding the reason's province —the world of appearance. But the real world was the world of will.

There was still a remnant of the scientific in Kant in the theory that the unknowable things in themselves caused the things as they seem. Two arguments were directed against them: (1) that the category of causation applied only to the phenomenal world, the world as it seems; (2) that if things in themselves are really unknowable, how can one assert anything whatsoever about them? It is clear that one cannot; and Kant's greatest immediate successor, Fichte (1762–1814), eliminated them entirely from his philosophy. That which is absolutely unknowable is as good as nonexistent.

That left the world much like Berkeley's world, a community of minds and their perceptions. The minds for Fichte were subjects of knowledge but, unlike Berkeley's, they were Kantian wills, moral agents. The central question that arose for Fichte was why the Ego had any objects, why the world was not just a choir of rapturous wills circling about the Will of God.

The answer, if it was to be reached by the method established by Kant, must be deduced from the nature of will, not from the observation of external fact. Now the will was essentially a moral agent bound by laws of its own creation to strive after the attainment of "the Ideal." Just what the Ideal was is not very clear in Fichte, but such words as "ideal" and "spiritual" and "deepest nature" and "the moral law" were used by him and his contemporaries as if they needed no definition. Since they referred to things which were above the reason, it was perhaps only sagacious not to attempt to define them. Nor did the post-Kantians make any persistent attempt. To return, then, to the Will, its purpose was to attain the Ideal. That is what wills are for. Hence the problem arises as to how the Ideal is to be attained.

The Ideal is to be attained first by the Will's persistent and undeviating assertion of itself as a Will. One cannot achieve anything unless at the outset one is self-assertive. But to be a Will is to overcome obstacles; to be a moral will is to overcome evil, as the knights of King Arthur's Court set out to rescue the victims of bandits and of other malefactors. That volition is the exertion of effort against a resisting object, be that object evil or simply a problem in mathematics, is typical of the thought of this time. The typical will was, of course, Napoleon, whom a later German philosopher, Hegel, was to call "the world-spirit on horseback." Napoleon was a person who found disorder and ruin and set about overcoming both until he dominated the European scene. Fichte, himself, was a man in whom poverty and social loneliness made self-assertion of primary importance. His immediate task was to submit to his obstacles or conquer them. His fashion of conquering them was his philosophy.

For, he said, the Will needs obstacles to be a Will, just as a chess-player—to use a simile of Josiah Royce—needs an opponent to be a chess-player. Therefore the Will, after asserting itself, necessarily creates by a kind of fiat its own obstacles. These obstacles are the external objects of common sense, given a kind of stability and material obstinacy by the needs of the Will who made them. Their function is to oppose the Will, to frustrate it if possible, as the function of the opposing chess-player is to beat his challenger. There would be no sense in creating an opponent over whom you were sure of a victory, nor yet one who was sure of being victorious over you. An evenly matched game is necessary. Thus the fundamental opposition between the mind and its objects has its roots in the moral situation of a Will and its obstacles.

This subordinates the physical world to the spiritual, making its existence not quite real. It is our creation, almost our plaything, but a dangerous plaything, like Mrs. Shelley's Frankenstein or the French Revolution. Europe, in fact, at this time was impressed with the dark splendor of dangerous games in which Byronic players might be wasted but were yet impelled to play. What was real in such a world was its controlling laws and those were the ends for whose attainment the game was played. Those laws were "ideals," eternal principles, in the acquisition of which the Will might sink into rest. But they had the peculiar faculty of never being perfectly attained; as one reached out for them, they fled like the towers of El Dorado. Hence the irresistible conclusion to be drawn was the paradox—not unwelcome to Fichte—that the real was never what is but what ought to be. But is not this ceaseless striving after an ever-retreating ideal an evil? Why seek for that which one cannot attain? It is not an evil; on the contrary, its retreat alone keeps the Will alive: were the Will to reach its goal, to terminate its struggle, it would cease to exist. Its very existence depends upon this hopeless pursuit. Striving in the long run is its own goal.

This notion of action for the sake of action, striving for the sake of striving, was seized upon with avidity by Fichte's contemporaries. It was an apology for ineffectualness. The blue flower of Novalis, which is the symbol of the unattainable and *therefore* the perfect end, became the symbol of the age. It was one of the many phases of the movement known as "romanticism." But more important than that for our purposes is its connection with the theory that ideas are "expressions" of the self and not symbols of "things." When the self becomes a Will and not a Reason, its ideas are bound to become ideals and logic to become a branch of ethics. So long as these earlier voluntarists remained German pietists, with some notion of over-individual "ideals" beckoning to man in the infinitely remote but visible heavens, the theory would provide for at least a semblance of coherence. But when the subsistence of these over-individual ideals was doubted and truth retained as ethical and not logical, the coherence of the universe was less safely guarded. We shall see what happened later.

One reading Fichte cannot but be impressed with how little the new sciences of chemistry and biology influenced his thinking. A century earlier, philosophy had been dominated by mathematics and physics; and if it had made any improvement upon what it had been before their rise, that improvement was due to them. They had furnished a technique for clear thinking at least, if they had done no more. They had stimulated the quantitative way of dealing with the world, which with all its shortcomings was nevertheless to prove more fruitful than the teleological method which it had superseded. Its great error, however, had been to induce men into conceiving everything on the pattern of machines, operating by means of physical impact. Not only was all inorganic change so conceived but also all organic, all psychological, and even those less easily grasped changes which occur in the social order. The universe was a machine, the human body and mind were machines, the body politic was a machine.

But the eighteenth century had seen the rise of biology and history, and the Germans especially were impressed with the inadequacy of the mechanical explanation. The adjustment of means to end might be conceived as mechanical; but such phenomena as trial and error, the repeated efforts of an organism to attain an end—be the end merely going from one point in space to another—were paralleled nowhere in the mechanical world. What machine had aspirations, hopes, disappointments, longings? What German did not have them? The natural reaction of Germans was: If mechanism cannot explain us, it is false; away with it. This attitude was strengthened by the Kantian theory that science dealt with a realm which was relatively unreal, and by Fichte's theory that that realm was our own creation.

The new sciences were, however, beginning to awaken doubts in Germany. The biological writings of Kielmaier—who was one of the earliest formulators of a "law of recapitulation"—the theories of Galvani about animal magnetism, the discovery of chemical synthesis by Lavoisier, even the practices of Mesmer, were setting tongues wagging. Mysteries were being dreamed of in philosophy, and it was suspected that the world which had seemed so dully mathematical and mechanical was really alive and human. It was no longer a question of "reducing" the mind to material atoms and their functions—as in the French materialists—but of elevating Nature to the dignity of the mind.

This possibility was most seductively expressed by Schelling (1775–1854). His problem was to show that the same dialectical conflict which existed in the Fichtean Ego, creating its opposite in order to be itself, was going on throughout the natural order.

It was not difficult to show in Nature an interplay of opposites. In brute matter itself there was attraction and repulsion, and the nascent science of electricity showed that similar charges repel each other and dissimilar attract. As it moves it is directed by two opposing forces, one centripetal, one centrifugal. In the atmosphere there were two opposing gases, oxygen and nitrogen; and in organic nature there were those beings who lived on nitrogen (plants) and those who lived on oxygen (animals), the one passive and torpid, the other active and full of vigor. In the animal sphere the same opposition is found between the sexes; the female which is vegetable, the male, animal. And throughout the whole realm of existence the same opposition is seen: on the one hand, the passive, inert, receptive; on the other, the active, creative, spontaneous, the former of which is mechanically determined, the latter free. The passive element in the universe is obviously Fichte's Non-Ego; the active, his creative Will.

Nature as a whole, then, is neither determined nor free; it is a synthesis of the two opposing traits which is identical with neither. It is like Spinoza's God who is neither mind nor body, but both. Within the natural order there are various levels, each of which reproduces the cosmic struggle, from the level of those things which are more determined than free (matter) to those things which are more free than determined spirits. This is like the Leibnitzian system of monads, each of which reproduced more or less clearly all the others and all of which were arranged in an ascending scale from the least powerful to the most powerful. But in the Leibnitzian universe the chief of the monads was God, who was therefore an individual and but one among the others. He included all the others by mirroring them and by having created them, not by being them. In the Schellingian universe the monads are like Bruno's and Spinoza's, absorbed into the order of Nature. But they are in a significant detail different from Spinoza's, for his were entirely determined by mathematical law. Schelling's were essentially free and, as in Plotinus, their freedom consisted in their "creative" power. Exactly what and how they created is questionable; but Schelling gives one the impression that not only does each level create its only particular life but that there is a continuous creation of the lower levels from the higher and of the higher from the lower, a way down and a way up, as in classical Neo-Platonism.

If one scrutinizes the direction of evolution, one sees it culminating in man; and if one scrutinizes man, one sees within him a similar evolution *in petto* from sensation to the highest forms of spiritual consciousness. Each level, as in Aristotle, recapitulates the development of the lower levels and adds to them. This addition is the result, one gathers, of invention. But what actually is the inventer? The answer is the World Soul, a term whose Neo-Platonic affiliations are obvious, which, pushing onward, finds ever new ways of expressing itself.

As Schelling's career went on, he turned his attention from Nature to the mind. Therein, as we have said, he saw the same interplay of opposing forces synthesized into new forms as he had found without. But he discovered now a reason for the struggle. The reason was that the self was seeking for self-knowledge but was unable to know itself except as exteriorized and transformed from a process into a thing. It cannot catch itself on the wing; it must objectify itself. But it is not an object; it is a subject.

Hence at the very heart of the problem of self-knowledge lies a paradox. To know itself it must falsify itself, and the falsification is its innermost nature. It as a whole is a union of opposing qualities.

The process of self-knowledge is seen to have three stages —the number 3 was acquiring an extraordinary vogue at this time. In the first, the self is on one side as subject, the physical thing is on the other side as object, and the "phenomenon" or datum of perception is between them as a synthesis. In the second, the self passes from sensation to relational knowledge: on the one hand stands the phenomenon or percept, on the other the category of relation, from the two the emergence of the self as judge or framer of propositions about the world. In the third, the judge unites his percepts with concepts and creates an "ideal order." In this stage the self is aware of its procedure: it deliberately and consciously builds up its world.

One might imagine that this procedure was simply the building of logical systems, the activity of a mathematician or a logician. It is that and more. For we must not forget that the self in these philosophers is essentially a Will and that therefore its ends are not merely logical. The mathematician is a creator and produces logical systems, not, however, because logic has any value in itself as a description of reality, but because logical implication is a kind of a spiritual "activity." It is as an expression of the self that it is important. Yet it is an incomplete expression of the self, because, as one can easily imagine, one is not free to wander as one will in mathematics, one must abide by laws which are not entirely of one's choice. This highest expression of human activity is found not in science nor even in morals but in art. Artistic creation is an analogue of the creative power of the World Soul, bound by no laws except those of its own making. Art has all the oppositions of Nature—matter and creative power; restrictions imposed by the material, their elimination by the artistic imagination. It is an incorporation of something which is not corporeal. But no historian can do justice to Schelling's frenzied eloquence as he discussed the artist's task and power. Art had become for him an act of religion. The artist as he made a beautiful object out of unformed matter took on the air of a priest celebrating the Mass: both were miracles. Never before had artists had this holy position in society. Until the romantic movement they had been considered to be artisans, not to be despised on that account, nor yet to be worshiped. What privileges they had in society were those accorded to other successful men, engineers, soldiers, merchants. They took orders for their works as tailors did, nor was the cause of beauty any less nobly served. But after a generation has heard that an artist embodies Platonic forms in matter, it begins to suspect that there must be something supernatural about art. And when such a doctrine is combined with the belief that no rules nor canons bind the artist, it is easy to see why he looks upon himself as belonging to a race set apart. The phenomenon of the romantic artist, with his talk of "inspiration," his personal autonomy in questions of beauty, his insusceptibility to the criteria of right and wrong, arose at once and is only now beginning to disappear.

In Germany it helped to justify the lives of such writers as the Schlegels and Novalis. We cannot here go into all the details of their theories, but all were firmly convinced of the supremacy of the artist over all other humans, the supremacy of art over all other interpretations of nature, and the necessity of conflict and variety in art as well as in nature. Curiously enough, these men who yearned for freedom discovered that freedom once attained is lethargy and that the soul is only free when disciplined. Hence in Germany they turned back to what they fancied were the Middle Ages and embraced Catholicism and preached political absolutism. The writings of Frederick Schlegel (see *Lucinde,* as an example), of Gentz, of Werner; the lives of Tieck, Caroline Michaelis, Hölderlin, Schleiermacher, Kleist, the daughters of Moses Mendelssohn, are models of inconsequence and pathetic yearning after some kind of spiritual repose. That the Germany of the later nineteenth century stood for the most rigid discipline, and that the Germans themselves submitted to it, is not to be wondered at when one sees the welter of fatuity out of which it arose.

The philosophies of Fichte and Schelling were incomplete. There was still to be explored the process by which natural conflict gave birth to higher syntheses. Most of the men of Schelling's generation, however, did not attempt this. Some spent their time writing fantastic accounts of *natur-philosophie,* in which physics and physiology and psychology are all "deduced" from the abstract principles of the conflict between positive and negative forces. Others turned to religion, and of them Schleiermacher tried to show that religion arose from a special faculty, feeling, a feeling of dependence which mediates between rational knowledge and ethical volition. In him the striving Ego has recognized its ultimate helplessness. The lethargy of the satisfied will is no longer spurned, it is sought. Man wants some bosom on which he can rest, be it that of Magdalen or of Abraham, and from that want springs his belief in God. Religion cannot be codified—it must remain an individual affair; in time it will outgrow the Church. Schleiermacher could not give up the ideal of man as self-dependent even in that interest which was testimony of his weakness.

The problem of tracing the steps of Schellingian development from sensation to self-consciousness was left to Schelling's friend—later his enemy—Hegel (1770–1831).

Hegel inherited from his German predecessors a succession of paradoxes. There was, first, the Kantian paradox of the unknowable things-in-themselves giving rise to knowledge. This was accompanied by the paradox of the many subjects knowing the world as if it were one. There was, third, the paradox of the subject's inability to know itself other than as object and, fourth, the Fichtean thesis that the Ego creates its opposite in order to become more of an Ego. There was, finally, the lesson which Schelling taught, that out of opposition and contradiction came creation; in the old Heraclitean phrase, War is the father of all and the king of all. Besides these paradoxes was the growing fusion of Reason with the æsthetic and ethical activities of men and the envisaging of it as a process rather than a thing. If we were to call the reason that which penetrates to the deepest reality and exposes its structure, reason must be in the light of this tradition (1) nothing abstracted from "life" and (2) friendly to paradox.

Fichte had shown the moral life—which to him was identical with the intellectual life—to be the overcoming of obstacles; Schelling had shown that the progress of Nature was from that of brute unconsciousness (necessity) to that of self-consciousness (freedom). Hegel determined to investigate the steps in this progress. He knew from his masters that it would be a synthesis of opposites, but he had not learned from them the details of the matter. In his great *Phenomenology of Spirit* he works out the process for the human spirit as a whole; and in the *Logic,* for our rational concepts.

Suppose we try to think of something, it makes no difference what, ourselves, a rose, a straight line. Our problem is to fasten our gaze upon it in complete independence of all else, in isolation. If it be myself, I must see myself cut off from the past and future, from society, from the physical environment. For I do not wish to include my relations. I wish to include myself only. If it be my rose, I must snip it off its bush, isolate it from its history and future, think of it merely as a rose. What do I find? I find that bit by bit the object of my reflection becomes impoverished, it loses its qualities piecemeal, it crumbles away, until to my amazement I have nothing left. For this property depends upon a long train of antecedent history and if I lop that off, my object loses by so much. And that property depends upon a variety of other things now existent; if they go, it must go. And, in the case of myself, much that is present exists for the sake of the future, my hopes and fears and anticipations, my education, my religion, even so mundane a thing as my insurance policy, are in part determined by what is not yet but is expected to be. If all that goes, what am I? A human self or anything else is seen to be a fusion (synthesis) of what was, what is, and what will be. Eliminate any of them and the thing vanishes. But to think of the thing itself is to eliminate them all. For to think of a rose is not to think of the horticulturist who planted it, nor of the soil in which it is grown, nor of the sun, nor of the scissors which will clip it. Yet this particular rose is what it is because of all of these and more relations which it sustains. When they, to repeat, are cut away, the rose is cut away; but in the process of getting to the rose itself, they are bound to be cut away.

Out of this situation arises the fundamental paradox of the Hegelian system. The reason, it may be stated, in its efforts to conceive of something arrives only at conceiving of nothing. Ethically, that which stubbornly asserts itself, succeeds only in annihilating itself. Logically, the assertion of Being implies the assertion of Non-Being, its opposite.

This principle leads into two famous doctrines, one of truth and one of reality. They are that no proposition taken in isolation can be wholly true and that no thing taken in isolation can be wholly real. A proposition is only true in the system in which it is implied: thus a proposition in Euclidean geometry would not be true in a system of non-Euclidean geometry. So a thing is what it is because of its relations to other things. Only all possible propositions are true taken together; Hegel—unaware of modern mathematics—believed that they would all form a single coherent system. So only all possible things taken together are wholly real. Consequently, no system of philosophy before Hegel's was true, but all were fragments of the truth. And no institution, political or religious or other, was wholly real, but all were approximations of reality.

But what, then, is the whole? It is seen to be something which neither is nor is not but is in a process of becoming. Like a human being who is growing, it is both emerging from one stage and passing into another stage. The fertilized egg, the embryo, the infant, the child, the adolescent, the adult, the senescent, these are not sharply cut off from one another but merge into one another in an ever-changing series of passing moments. The human being is them all. At no point can one say, Now this is a human being, now it is not. Yet all are different and, to one who was not acquainted with their history, would seem like separate and alien beings. This means that logically Being, having passed into Non-Being, emerges as Becoming. Thus barbarously Hegel expressed the passage of our thoughts: to assert anything in isolation is to deny it, and is finally to awaken to the truth that the thing asserted is a process, depending upon the past, present, and future. In its entirety it would include past, present, and future. And since he believed the universe to form a coherent whole, the universe is not now any more than it has been or will be. To it as a whole all times are telescoped into one Now.

The dialectical evolution, as it was called, was held to be exemplified in history. In the Orient, for instance, religion was pantheistic; divinity was undifferentiated and impersonal; all things were divine so that God and Nature were identical beings under different names. This when examined results in the negation of God, for if God is everything in general He is nothing in particular and becomes a useless and meaningless symbol. At this point in religious history there develops the religion of the Greeks. Here, instead of having a vague all-inclusive non-personal deity, we see a group of gods who are the height of individuality, each with his own life and manners. Pantheism has turned into polytheism; divinity has become atomized; and the several ideals of men, justice, beauty, love, art, creativity, and so on are each incarnated in a god. But as the process continues, the gods become multiplied, until by the end of the pagan period there are thirty or forty thousand gods in the pantheon. Every individual has his Genius or Juno, every household its Lares and Penates, every country its patron. The multiplication of divinities reaches the point wherein religion meets its own defeat, for if everything has its god, then there is no reason for a general god ruling over all. When polytheism by the force of its own inner logic goes to pieces, monotheism takes its place. The God of the Hebraic tradition, as He appears in Christianity, is both the Oriental pantheistic god who rules over all, is creator of all, and is omnipresent, and the Greek God who is a person. Thus the two opposing aspects of divinity are synthesized in Jehovah.

The same evolution is exemplified, according to Hegel, in political history. In the Orient, sovereignty is vested in one man, the despot, who has absolute power of life and death over his subjects. All exist for the sake of one and have no will of their own. The subjects are literally at the mercy of the despot's will. In Greece, on the other hand, sovereignty is atomized as divinity was. Every man is king; Demos rules and the executives or governors exist for the sake of the People. The Oriental government of all for one is changed into a government of one for all. But this simply replaces the caprice of one man by the caprice of the mob; and democracy begins to disintegrate with paganism. In its place arises a synthesis of despotism and democracy in European monarchy in which sovereignty is vested in one person but used by him for the good of all. The monarch is an incarnation of the absolute sovereignty of the people.

When one follows the application of this principle into the development of Hegel's political philosophy, one sees that the European is as bound to obey his monarch as the Oriental was his despot. The only difference is the reason why. The Oriental obeyed the despot because the despot was inherently sovereign; the European obeys his king because the king is in some supernatural way the people. But as in Rousseau one cannot rebel against the "common ego," so in Hegel one cannot rebel against the king. This is substantiated by the doctrine of internal relations. As we have seen, nothing in isolation is real; things belong in groups which belong in larger groups, which are in turn grouped into larger wholes until the Absolute is reached. These wholes have each an individuality or, better, a personality, which their members do not have. So some legal philosophers of today, following Hegel's lead, attribute to corporations, clubs, churches, and the like, real personalities which can sue, sustain injuries, and incur responsibilities in which their component members do not share. The state, therefore, is a person which is different from its members; and that person is incarnated in the monarch, in whose being citizens have a kind of mystical participation, as communicants have in the being of God.

But the state is not the first synthesis of human beings. It is rather a synthesis of groups. These groups are the family on the one hand and civil society on the other. People are synthesized into family units by the force of love. The two parents—which even in Schelling represented the positive and negative forces of nature—and the children fuse into a solid triangular unit in which neither corner is predominant. To be a good child is to be subordinated to one's parents; to be a good parent is to be subordinated to one's children; to be a good wife is to love one's husband; to be a good husband is to love one's wife. These homely platitudes seem innocent enough; but in Hegel they meant more than was apparent on the face of them: the sacrifice of individual difference for the good of a whole which was higher than any of its parts and, therefore, unhappily beyond the conscious appreciation of its parts. Family life, however, was only one side of the story. People have interests—economic, largely—which cannot be satisfied within the family. Modern society, as everyone knows, has brought about a division of labor increasingly specialized; so no family is self-sufficient. The family is helpless before the economic struggle. Its unity may perish when it is a question of bread and butter. The case of migratory labor in our own day is a good example of this. Certain kinds of production in America—large-scale farming in the West, for instance—seem to demand large numbers of workers at some periods of the year and none at others. These workers must be free to move about, following the demand for their services. The conditions of their work are such that they cannot enjoy a family life. In which way are they to turn, toward the family and let industry suffer or toward industry and let the family suffer? Hegel seemed to think that the conflicts between the family and civil society could be reconciled in one's devotion to the state which is a higher synthesis of the two. Such devotion, as observers of the Hegelian state—Prussia—in action have seen, leads now to a denial of family claims, as in war, now to a denial of economic claims, as in education; but in the long run both are bound to benefit. Just how this benefit is to emerge was not clear; it was bound to be a kind of quasi-religious affair. But whatever non-Germans may think of it, it seemed eminently satisfactory to at least the majority of North Germans, and under its auspices they made their extraordinary progress in the nineteenth and twentieth centuries, more solidly united than any other European people. Apparently convinced that the will of the monarch was the will of the state and that the will of the state was the will of its citizens, they marched triumphantly on. And though for the time being they may seem to be eclipsed in worldly success by other nations, their national ideal has conquered and controls the destiny of both Italy and Russia.

Hegelianism seemed the ultimate triumph of the human reason to many men. By calling Kant's Practical Reason "reason," people were led to believe that Hegel had overcome the anti-intellectualism of his immediate predecessors. But they overlooked the fact that Hegel's reason did not advance through any effort of its own; it made no conquest over nature as a scientist may be said to make. It rolled along, propelled by an inherent law which also propelled everything else in the universe. As Hegel was a Christian, he was optimistic and knew that this propulsion was toward the good. As he was an idealist, he believed that the whole material universe was subordinate to mind. But his very idealism was a denial of the efficacy of ideas, for, to use his own technique, where all is mind, mind is nothing.

This conclusion was reached by two of his disciples, Strauss (1808–1874) and Feuerbach (1804–1872), who ended by frankly admitting their materialism. It made very little difference what an Hegelian called himself; the main difference between the members of the school was one of emphasis. Just as Spinoza has been—justly—interpreted both pantheistically and atheistically, so Hegel has been interpreted idealistically and materialistically. All the Hegelians believed that there is one law for all things, the law of evolution through negation, and that that law is an unconscious expression of what the mediæval philosophers would have called the Will rather than the Reason.

The way was thus opened for the doctrine that man was not even master of his thoughts and that thought was impotent. Both were implicit in Hegel. The industrial revolution had made men feel their helplessness. The machine, which the seventeenth century had extolled as evidence of deity, was becoming the actual god of western civilization. When the French Revolutionary philosophers had wished to liberate men, they tried it by preaching that all individuals were equally endowed to attain truth and dependent upon no organized authority. They relied upon popularizing knowledge. They developed the study of psychology to prove that human ideas all spring from the same soil, and they hoped by perfecting man's reason to set man free. They sought and believed in individualistic and intellectual freedom. When the German communists through Karl Marx and Engels pleaded the cause of the proletariat, they did it by adopting Feuerbach's materialism and insisting upon the inefficacy of human reason. *Man ist was er isst,* said Feuerbach, in a hackneyed proverb; and Marx tried to point out that the struggle for food was the keynote to all history. We may, like the English Tories, think we are defending the Kingdom, the Church, and the Old English dispensation; in reality we shall be raving about Ground Rent. So all ideas are functions of an economic status. Marxism is not excluded from this: it is an expression of the proletariat's needs. But as in the evolution of things humanity has reached the stage of proletarian supremacy, we must have a proletarian philosophy. This, of course, put the human mind into the same kind of subjection as early Christianity *à la* Tertullian had. It was but another step forward in the march of voluntarism. But now the Great Will was neither that of God nor of the King but of the Proletariat. It was still as unquestionable, as incased in protective armor as it had ever been, and exacted as unhesitating obedience to its dictates.[1]

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[1] See an excellent treatment of this question by a communist, Max Eastman, in his *Marx and Lenin,* N. Y., 1927.

The philosophy of Hegel was obviously of small comfort to men who yearned for the spontaneous lyricism of Schelling's universe. For though the Will, disguised as the reason, was at the heart of things, it was acting in much too monotonous and cut-and-dried a fashion. In other words, the rational disguise was too perfect.

The revolt against Hegelianism was led by Schopenhauer (1788–1860), who had been a pupil of Fichte. Schopenhauer led his revolt with the cry of, "Back to Kant," of whom he pretended to give the only correct interpretation. He revived Kant's theory of the two worlds, the phenomenal and the real, but denied that the real world was unknowable. On the contrary, his lessons with Fichte had taught him that it was known in the Will, and that the firm, rocky, geometrical world of appearance was but a cover to an underlying restless activity, struggling to perpetuate itself.

The Will in Fichte had moral ends, even if they were unattainable in finite time. That of Schopenhauer had no end other than its own continuance. It was simply the driving power of Nature; the attraction of two chemicals for each other, the movement of planets about the sun, the groping of plants toward the light, the union of the sexes, man's striving for success. Throughout the world this desire to live, to push on, to propagate, was manifest. The world was alive and the great life force was canalizing itself in plants and animals and men. Even the mineral world was alive, as the phenomena of the chemical laboratory seemed to show. This will, however, was blind and irrational. Nature was neither mechanistic, nor purposive, nor, as in Schelling—and later in Bergson—exuberantly artistic, inventing new modes of expression.

The one place where man knows the Will as Will is in himself. Elsewhere he knows it as matter, revealed to him in the guise of sensation (phenomena). Thus he sees the steel move toward the magnet but does not feel the pull of the magnet upon the steel. In this manner he perceives only the outer shell of volition, not its inner essence. But the outer shell is determined by the inner essence; it is not simply an envelope, it is an objectification of the will. From the French materialists, mainly from Cabanis, Schopenhauer derived the idea that our physiology is all there is to observe in volition—a notion not dissimilar to that of Lamarck in his theory of evolution. The brain, said Cabanis in a famous paragraph, secretes sensations as the liver secretes bile. Our organs, said Lamarck, are what they are because of our felt need of performing certain functions which modifies them in the course of time. Our organs, said Schopenhauer, *are* our will; our brain the will to think, our sexual organs the will to procreate, our stomachs the will to nourish ourselves, our hands the will to grasp and handle tools. Thus one can observe the material world and imagine the will within, sluggish and stupid here, active and vigorous there. In human beings it has invented an instrument much more powerful than any other, the intellect.

The intellect is the servant of the will. It serves to guide the will in its sightless groping and stumbling. It has no value in itself and in most people is subservient to their desires. They believe what they want to believe; they are never at a loss to find good reasons for what they want to do. As in Karl Marx it is the economic instinct which determines our ideas, in Schopenhauer, it is the will to live. The only important difference is that Schopenhauer did not believe living to be entirely an affair of bread and butter. This tradition that our intelligence is at the mercy of our desires has its contemporary flowering in the psychological theory of Freud, in which the will to live is replaced by the *libido*.

Though the intellect is subservient to the will, in some people, philosophers and artists, it rises above its master and crushes it to earth. How this can happen Schopenhauer does not explain, but in a voluntaristic universe there are bound to be inexplicable details. This comedy of the will's being overcome by its servant was a familiar enough bit of irony in an age which especially enjoyed the *Frankenstein* motif. Its method of overcoming the will was its introducing man to the realm of Platonic forms which, since they are timeless and changeless, give no opportunity for practical labor and hence stifle action.

In Schopenhauer's predecessors the aimlessness of the will was not an evil, but a good. Schopenhauer was unhappily too much of a Greek to agree with such a notion of things. For him the life of contemplation and repose was better than the life of action and endless striving. Hence the will emerged in him not as a symbol of goodness but of evil. It exists to be satisfied like all desires, but once satisfied is not appeased but strengthened. Our hunger for life is that of a drug fiend for his drugs, a thing which battens on attempts to quiet it, which grows more insistent after a short period of calm, until like a vicious habit it fastens itself upon us and we are entirely at its mercy. Life, therefore, is an evil, and the only good is the cessation of suffering. But for suffering to cease is for life to cease, for life is of the very stuff of suffering. We suffer in our desires, we suffer in the impossibility of satisfying them, we should suffer if they could be satisfied—for the satisfaction of all desires is boredom. Thus if we were rational we should commit suicide, but we are bound to the wheel and cannot. Moreover, to kill ourselves is to admit with a last desperate gesture that the will has conquered us and that we must give up the struggle. We cannot thus atone for the sin—not the misfortune, but the sin—of being born. We must conquer life by living in open defiance of the will.

This is done by art and by self-denial. Art carries us into the world of Platonic ideas. As it is disinterested, it serves none of our personal ends. The disinterestedness of art is best seen in the genius who gives all for the sake of something objective—a picture, a poem, a bit of music. Music is particularly victorious over the individual will. Containing no thoughts and no pictures, it objectifies the struggles of the will in nature. But in music the will is freed from its practical ends and forced into a pattern which is an end in itself. Thus the audition of music brings man face to face with the inner core of reality, purged of its evil. Self-denial accomplishes a similar end. Schopenhauer's reading of the *Upanishads* had taught him that the sages of India had solved his problem by living the lives of others. Thus, when one is objective enough to deny one's own desires and through sympathy to work for the satisfaction of another's, one has, so to speak, injected himself into another's being, identified his soul with another's soul. One has in this manner achieved a cancellation of one's individuality which is what the Buddhists have called *Nirvana.*

Schopenhauer was the first of the great European pessimists. Christianity, to be sure, had denied the value of terrestrial life, but no one before had frankly admitted that all personal existence was evil. To read Schopenhauer as a young man is still a tremendous experience; and after the popularity of his hated professors had grown stale, men read him with a fierce masochistic pleasure. Whatever may be the truth or falsity of such a system of thought, it is a welcome antidote to the sweet poisons of post-Kantian optimism. One living in Germany after 1848 could scarcely believe this to be the best of all possible worlds, and Schopenhauer showed them the illuminating possibility of its being the worst. It is probably true that the world is in itself neither good nor bad but, as Spinoza maintained, utterly indifferent to the happiness or unhappiness of men. Schopenhauer at least shook up the youth of the land to the realization of the fact that its goodness was not self-evident. To have recaptured the notion that life might be tragic was to have recaptured a part of the sanity of Greece. All that was needed was for a saner individual to pursue the matter.

The popularity of Schopenhauer grew after the disillusions of 1848. The failures of that year were to prove as disheartening as the War of 1914. The hopes of a free Italy, Poland, and Hungary, of a democratic France and Prussia were, as we know, crushed. Out of the struggle for political freedom came greater despotism, and Schopenhauer to many men represented the ultimate vision of what life was. Among the disciples of the great pessimist were Wagner, the composer, and Nietzsche (1844–1900). Wagner adopted the Schopenhauerian philosophy, even expressing a Christian form of it in *Parsifal,* for the search of the Grail was the denial of life in self-abnegation. Nietzsche, however, was not content with this solution, for his reading of the new biology had convinced him that man was an animal and not a fallen angel and that therefore the will to live must be interpreted in biological terms. For biology life is self-substantiated. There is no saying to an animal that life is bad, for his whole existence is for the preservation and enrichment of life. Therefore man must be taught that life is good, and the philosopher must discover why.

Nietzsche's early studies of Greek culture had convinced him that there were two types of human temperament, the reflective and the active, just as Schelling had believed that there were two types of existence, the rationally determined field of science and the free spontaneous field of art. The reflective person seeks contemplation, peaceful repose, balance, the static well-ordered things, and expresses himself in painting and sculpture; the active person seeks an outlet for his energy in performance, loves the dynamic forceful life, and expresses himself in music and the dance. The former might be called the spatial temperament, the latter the temporal. Nietzsche called them the Apollonian and the Dionysiac, after the god of light and healing and the god of fertility and the vine.

He found himself in these early studies more attracted to the Dionysiac type than to the Apollonian, probably because—as some historians have said—he was himself weak, sickly, and forever frustrated. But as he studied further the nature of civilization, he discovered that such a division would not account for all men, but that they would better be described as masters and slaves. The will in both of these groups is a will not merely to live but, as in what was thought to be Darwinism, a will to power. The will to power was man's dominant impulse to overcome the world, to submit it to one's standards, to mold it to one's desires.

There were two ways in which Nietzsche saw man doing this. One was by the frank and overt subordination of all else to one's will. This was the method of the great men of the Renaissance, who knew no law other than their own insistent appetite for power. The Cesare Borgias, the *Prince* of Machiavelli, the all-powerful artists like Michelangelo, recognized no moral law that was not of their own making. As Gobineau, the French author and diplomat, had shown Nietzsche, the triumph of the Renaissance had been the achievement of personality. The lives of those men, who still distend our imaginations, were lyric outbursts; they were not disciplined by accepted canons of morality; they were autonomous. Such men Nietzsche called masters; he found their historical counterpart in the leaders of pagan antiquity.

Nietzsche's idea of a master is Duns Scotus's idea of God, a being whose will is utterly devoid of reason. In fact, the master is a god but a god on earth. He not only determines his own values of goodness and of beauty, but also of truth. He believes what it is necessary for him to believe in order to exercise his will. That such a person must be an individual in the most extreme sense of the word is obvious. He cannot live in society, because social life demands a recognition of other men's desires and a willingness to coöperate. The Greeks in their inability to coöperate were thus in his eyes not failures but successes. Of what value is coöperation, when all it leads to is a partial satisfaction of everyone's wishes and the complete satisfaction of no one's? Is it not better that a few really great men exist than a host of mediocrities?

There is, however, a second way of conquering the world —by submitting to it. This is the way of the slave who, living a life of humility and abjection, lives on and multiplies. So the reptiles have taken to themselves protective armor, or they live in holes in the ground and steal forth only at night when no active enemies are abroad. They can accept a blow without flinching, like the turtle, because they do not feel it; or, like the boa constrictor, they coil themselves about their prey and slowly crush it to death. They are not warriors on the offensive, who live dangerously, who seek danger in order to have their way, but beasts of burden, who meekly live on in the shadows but who make themselves necessary to the world by their very meekness and servility.

A good slave is a slave who will obey orders without questioning, who has no family ties, no manhood, and no property. He must never resist the demands of the master, but must listen to his command as if it were law. In fact, the master's will to the slave is law; the slave must completely abdicate his sovereignty and be but a second body at the service of his master's mind. Such a person must feel that punishment is never unjust, for whatever the master deals out to him is deserved because it pleases the master to bestow it upon him. Similarly, the slave must hope for nothing in this life. He is the poorest of worms for whom the world is a land of tears and sorrow.

But Nietzsche then discovers that these virtues and this description of the world are exactly what most Europeans of his day had been taught to believe should be their virtues and their world. They have been taught that the saint must swear the vows of poverty, chastity, and obedience; must turn the other cheek and love them that hate him; must never question the commands of the Church. They have been taught that God Himself atoned for man's sin—of disobedience—by unmerited punishment. They have been taught that this world is a Vale of Tears and that only in death is there release and happiness. They have, in other words, been educated on the morality of the slave. Christianity in his eyes was the religion of slaves grown dominant through the decay of paganism. Bit by bit the suppressed classes of the ancient world arose above the aristocracy and they did it, not by renouncing their slavishness but by glorifying it, by calling it divine.

That technique of social reform has become common today. Since the French Revolution, for instance, the labor-ing class has risen to power largely by insisting that to work is not a punishment and an evil but a good and a privilege. Who before the Revolution would have dreamed of talking of "the dignity of labor"? So in contemporary America, the Negro is attempting to win for himself a place in the world, not by becoming an imitation Caucasian, but by accentuating his Negroism. He tries to convince himself that to be a Negro is not a misfortune—though in free white America it is clearly the greatest of curses—but almost a blessing. He has not, as far as I know, gone as far as the early Christians and maintained that God Himself is an African and made the world for Africans, but that will come in due time. So the Irish and the Jews and, since the War, all the smaller nationalities of Europe, have followed the same path. And in a world which no longer has standards, even of truth and falsity, it is to be expected.

Nietzsche, however, saw no reason why Europe should continue to follow a slave morality. Now that it was conscious of the situation, it could begin to cure it. The only cure was to deny at the outset that life was an evil, for it was only an evil if slavery was the natural condition of man. Let us then pronounce life to be a good, the supreme good, and admit that the master is the ideal human being. If we do that, we shall construct a revaluation of all values, in which the will of masters shall determine the good, and the will of slaves, evil.

Thus, humility will be a vice and self-assertion a virtue; pity will be a vice and contempt of the weak a virtue; cooperation a vice and domination a virtue. Nietzsche knew perfectly well that this revaluation of values was an ideal somewhat remote from our probable attainments, and introduced his magnificent myth of the Superman to account for its realization. The Superman was to be the savior of

Europe, a product both of eugenics and of evolution. He would be as far above man as man is above the ape. His standards would be those of a master, not those of a slave. He would create values and dominate the world as man dominates it today. He is, of course, the hero of *Thus Spake Zarathustra,* alone on his mountain height with his eagle and snake, the conqueror of life. He is the latest great philosophic myth of Europe; he is, as we have said, Duns Scotus's God come to earth, not now as a political sovereign (as in Machiavelli) but as a human being.

Nietzsche, for all his nonsense (and there is plenty of nonsense in him) was the great liberator of modern thought. Of all modern philosophers, he is the one who is most responsible for the dominant philosophy of life of our own times. His vocabulary has become part of common speech; and when one thinks of such books as Romain Rolland's *Jean-Christophe,* of Havelock Ellis's *Dance of Life,* of Elie Faure's *Napoleon,* the name of Nietzsche invariably swims into one's mind. His influence on art through such a great figure as Isadora Duncan cannot be overestimated. The dance, as she interpreted it—and she has proclaimed herself his disciple—has modified music, the drama, literature, and painting. It has turned from what might be called "external form," as seen in the "rules" of the seventeenth century, whose ideal was the perfectly balanced machine, to "internal form," determined by the artist's expressive needs. This, then, was the peak of voluntarism. That it developed so persistently in Germany is not strange. Germany has always been a land of mystics for whom the inner life has counted more than the world of space and matter. The tardiness of its submission to "Mediterranean" culture, its political and economic inferiority until recent times, have all encouraged the belief that what counts in life is not reason but volition.

The romantic rebellion in Germany was an assertion of the nation's right to be German and a denial of the idea that values were over-individual. Whither this will lead us in the future, no one can tell. But that we march under its guidance, no one can deny.

Chapter IX

NINETEENTH-CENTURY FRANCE

As soon as Napoleon was firmly seated upon the throne of France, it was clear that ideology must go. For ideology was associated in most men's minds with republicanism and, indeed, none of the ideologists favored the Empire and the Concordat. Accordingly, as we have said above, when the Emperor in 1803 reorganized the Institut Français, he left out of the new organization the Class of Moral and Political Sciences in which the ideologists were intrenched. On the other hand, he did everything in his power to win over to his side the enemies of these philosophers, the Catholics, who could be expected to preach loyalty and obedience to vested authority.

The Catholics during the Revolution had naturally been given no opportunity to articulate their reflections in France. But ringed about their mother country, they sat eyeing it like lynxes waiting for the moment when they might return in safety. Meanwhile they wrote a series of philosophic reflections on politics and especially on that of France which were to be the foundation of that interesting revival of Catholic philosophy during the Bourbon restoration, known as Traditionalism.

Traditionalism, like the philosophy of the Revolution, was both rationalistic and sentimentalistic. The philosophic split between Traditionalism and republicanism was on the question of whether "authority" was individual or social. Both the Voltaireans and the Rousseauists on the whole maintained that it was individual; they atomized cognitive as well as political authority; the individual unaided could reach truth, find salvation, achieve happiness, and create a state with other individuals. The Traditionalists, on the contrary, maintained that only the whole was real, that only the state—incarnated in the person of the king—was sovereign, that only society had attained truth.

The rationalistic Traditionalists were headed by the Vicomte de Bonald (1754–1840) and Comte Joseph de Maistre (1754–1821). Both Bonald and Maistre are convinced that the permanent and unified are good and the changing and multiple are evil. Hence any activity which makes for multiplicity and change is evil and must be combated. But ideology by its very process of analysis culminates in multiplicity. It divides the one—man's mind—into many—the sensory impressions. Politically, it breaks up the state into the social atoms and gives it only the specious unity of the republic; a collection, not a synthesis, of individuals.

Traditionalism, on the contrary, studies the whole; it seeks the unity underlying social diversity, the permanence underlying change. This whole is expressed in what was called by them Tradition. By tradition they thought they meant the cultural expression of human reason as a racial, not an individual, function in religion, literature, politics and, in fact, throughout the realm of human interests. But what they really meant was Catholicism and what is now called Latin or Mediterranean civilization. It was easy to trace the religious history of the Hebraic-Christian tradition back through the popes to Saint Peter, from him to Christ, from Him through the High Priests of Israel to Aaron, through him to Moses and thus back to the primitive revelation of Abraham. As far as secular culture was concerned, the same thing was true, though the bridge between Judæa and Greece was not so neatly joined. Tradition thus presented seemed like an ever-growing tree, in which all parts were vitally related to the whole and in which alien civilizations—such as the Asiatic and the African—could be interpreted as withered branches.

Truth as a tradition is not the fruit of one man's labor but of the labor of mankind. It is, as in Herder and the post-Kantians, an expression of aspirations, not a copy of reality. But for the Traditionalists the expression of the whole tree alone was truth, not the expressions of each branch. What they called Society alone was "authoritative," not individuals. And the Society *par excellence* whose expression was most perfectly authoritative was the Catholic Church. For here was a society whose interests were purely spiritual, uncontaminated with local and temporal interests, a tree whose roots were in Paradise and whose gardener was God. Organized in the beginning of the Christian era, it had weathered the storms of twenty centuries unchanged, except in increased strength.

The organization of the Church is a model for the organization of secular societies. Just as its authority is incarnated temporarily in one man, the pope, so must the authority of secular societies be incarnated in one person, the king. But as the kings serve temporal and not spiritual interests, they must be under the control of the pope, who alone of human beings has no worldly interests but lives for the betterment of mankind. This program is, as will be easily recognized, a plea for a return to the Europe of Gregory VII; and while it recognizes the rights of nationalism in secular affairs, it insists upon internationalism in spiritual.

The theory was curiously linked up with a theory of the origin of language which, though not needed for an understanding of Traditionalism, is interesting in itself. The philosophers of the eighteenth century had been split upon this question into a naturalistic and supernaturalistic camp. Condillac had maintained that language, like all the other human arts, had been invented by man for purely utilitarian ends. But at the same time it was believed that thought was internal speech: a man thinking was conversing with himself. Rousseau, accepting this description of thought, concluded at once that language could not have been invented, for to invent requires thought. To invent a language would therefore require a preceding language. This argument was taken over by Bonald—without acknowledgment, for he loathed Rousseau, and one does not acknowledge debts to people one loathes—and he concluded that if language was not invented, it must have been revealed to man by God as He formed him. What this means is that our thoughts are "in some sense" innate and are awakened but not caused by experience. Thus the literatures and cultural institutions of a people are functions of a people's language, for they are functions of a people's thoughts.

The full mystical implications of these doctrines were not developed by Bonald and Maistre, both of whom prided themselves upon their common sense. But the sentimentalists in their fold were less wary of deduction. Ballanche (1776–1847), not quite so much a man of the world, was more adventurous. He, too, believed in the social nature of man and in the unity of the human race. He accepted the dogma of the supremacy of the Church and the theory of divine origin of language. But he differed from Bonald and Maistre in maintaining that the path to wisdom was not reason but some kind of Rousseauistic feeling, and, above all, that change was not only real but good.

His natural sympathy for mankind prevented his believing that all our errors are sins and that rehabilitation is closed to many of us. He felt, on the contrary, that God would act in a kindlier manner and, being infinitely good, would give men an infinite number of chances, if necessary, to atone for their sins. He felt that society could progress from bad to better and that at the end of history mankind would return to the ideal state of Adam before the fall.

But for man to perfect himself requires more than one life; hence one must believe in reincarnation. And if all men are destined for rehabilitation, there must be no eternal hell. And if all error is to be purged away, even religion must grow, and we must look upon Catholicism as but a step to a higher revelation, as Judaism was a step to it. But if this be true, the question arises of what evidence Ballanche has for doctrines which teach what the Church denies. Ballanche can answer only that something in which he cannot doubt tells him these novel truths; and one is forced to conclude that the authority of the Church must incline before the testimony of the heart.

Such ideas to Catholics of the time were at best the deplorable weaknesses of a kind-hearted but soft-brained individual. At worst they were Protestantism. For they admitted "personal interpretation," which was identified by Bonald and Maistre with the whole Protestant movement. These men saw—and history has corroborated their vision—that personal interpretation could lead only to the disintegration of dogma and the pulverizing of the organic Church. If everyone had a right to his own religious beliefs, then there would be as many religions as there are individuals, and the unifying power of Catholicism would be lost. Consequently, the better part of wisdom was to deny the reality and goodness of change for the sake of organic unity.

The philosophy of Bonald and Maistre was a perfect apology for the Bourbon restoration. If philosophies can "express" political movement, it expressed the revival of absolute monarchy. But even the Bourbons had to yield to the popular demand for a constitution, and rationalistic Traditionalism had a success only in the eyes of the most reactionary of its contemporaries. Most men could not deny that times had changed; the lesson of the Revolution could not be so easily forgotten, and there were many evidences in the restored monarchy of the new order, evidences in the constitution, in the code of law, in the educational system.

This evidence was not denied by Ballanche nor was it denied by the greatest and most tragic of the Traditionalists, Lamennais (1782–1854). Lamennais, when he began writing, was inspired by one ideal, the restoration of the Church to its mediæval grandeur. He was one with Bonald in his contempt for any compromise with Gallicanism; to him the Church was the Church Universal. Nor could he consent to any modification of Ultramontanism: if the pope was the spiritual head of Christendom, he must be a real head, not an empty symbol. Lamennais was a priest; Bonald and Maistre were men of the world. They knew that one could not push a theory through to its ultimate logical conclusions. One must stop when common sense shows you that you are going too far. Common sense to Lamennais would have been vulgar compromise with one's ideals for the sake of worldly gains.

The Traditionalism of Lamennais was, like that of his fellows, founded upon the notion that man as an individual is nothing.[1] Only in society does he achieve the fullness of his potentialities. The solitary man is cut off from the fertilizing influence of the past and of his contemporaries. A man is, on the contrary, what he is because of his contact with others, in business, in school, in church. Unless man is to be a lump of animated clay and nothing more, he must submit to others and be led by them. Society thus is interpreted as a civilizing instrument; its purpose is spiritual as well as material. It is the mother of religion, science, and the arts.

In order for society to achieve its ends, it requires order and unity. In a state of social chaos nothing can be accomplished. But the order and unity of society cannot be produced by temporal means alone. A strong king can bend people to his will and force them to follow a prescribed course. A millionaire can pay people to satisfy his desires. But such organization is in the end as destructive of human personality as chaos, and what is required is a social discipline which is controlled by a power whose interest is not its own aggrandizement but the eternal values. Such a power is not of this world. It is the spirit of the Church. It is religion. Religion of all social forces is truly over-individual. By drawing the individual to God, it perfects him while apparently destroying him.

Religion for Lamennais was synonymous with Catholicism. It alone is a religion of all men, not of particular nations or sects. It is truly cosmopolitan. Its substantiation is found not in the individual reason—which is a force of disintegration—but in the *consensus gentium*. The individual reason is able to prove any absurdity which its employer fancies at the moment; the reason of the race, which is not ratiocination but a kind of subterranean instinct pushing men toward truth even when they are unaware of its presence, is homogeneous and can be shown to voice always the same religious aspirations. These are most perfectly voiced in Catholicism, but all religions are oriented in the same direction as Catholicism. Their errors are divagations from its truth; but even in idolatry is found a remnant of religious truth, the admission of a supernatural presence in the world. To prevent just such divagations as the schismatic and Protestant churches exhibit, a centralized authority is needed; this authority is found in Rome alone.

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[1] The reader will note the similarity between the social views of the Traditionalists and the Hegelians. The great difference between them was that the Traditionalists were Catholics and the Hegelians Lutherans. But both Hegelianism (in Marx) and Traditionalism (in Lamennais) led into socialism.

Now this philosophy might be expected to prove very delightful to the Church. It said that the reason must not interfere in questions of dogma—which left the way clear for miracles and mysteries; it said that all religions were under the banner of the Church and false in so far as they failed to pledge allegiance to that banner. But these very features occasioned alarm in the papal breast. The first admitted that dogma was irrational; the second, that truth was a matter of degrees and that non-Catholic religions could be partly true. The Church could agree in neither of these admissions. Our reason might be too weak to understand certain dogmas but that did not mean that God bade us believe things that were in essence irrational. Had Adam not fallen from grace, we might still be able to see the rationality of these teachings. As for the second proposition, was it not after all the very indifferentism which it was supposed to demolish? Truth could not be a matter of degrees, it must be absolute and final.

Nevertheless, Lamennais might have preached these doctrines with impunity if he had not taken them seriously.

But, as we have said, he was incapable of compromise and, believing in ultramontanism, he carried it to its logical conclusion. That led him to substitute the word "mankind" for the word "society" and to urge the people to submit to God alone. But such submission might involve rebellion against their secular rulers when their secular rulers had strayed from the paths of virtue. And that put morality above dynastic considerations. A king could do wrong, and when he did, one no longer owed him loyalty. This no sensible man could expect Rome to sanction. The Church was itself monarchical in its organization; it has always been befriended by Cæsar's sword; St. Paul had said that one must obey even a bad ruler since he was appointed by the will of God.

Accordingly, for these and other reasons, the pope (Gregory XVI) in his encyclical *Mirari Vos* dealt a deathblow to Lamennais's hopes as a restorer of Catholicism to world supremacy. Lamennais signed his submission to the Church in 1832, but the next year printed *Paroles d'un Croyant,* by which book, said the angry pope, "by an impious misuse of the Word of God"—the book was written in Biblical style—"the people are corrupted into breaking the chains of the whole public order, into weakening the authority [of Church and state], into exciting, encouraging, and strengthening seditions in the realm, tumults and rebellion; this book, therefore, which contains propositions respectively false, full of calumny, rash, leading to anarchy, contrary to the Word of God, impious, scandalous, erroneous, . . . do we reprove, condemn, and wish and decree that it shall be held as reproved and condemned in perpetuity."

The *Paroles d'un Croyant* held to all of Lamennais's previous doctrines but one: the authority of the pope. True religion, it maintained, needs no mediator between God and man; but true religion is rarely found. It alone is the universal solution of human ills and binds men together into a supernatural society. But now that he no longer feels the need of incarnating God's sovereignty in a terrestrial ruler, he feels that human solidarity can best be achieved through man's own efforts. In order to exercise his very duties, man needs freedom. In order to have freedom, man must do away with all institutions which separate him from his fellows. Thus national boundaries must be destroyed, then monarchies, then military service. Man must live under the direct and immediate government of God. But such a government entails the absence of all political institutions, and Lamennais ends where he should have begun, in anarchism. The people have no need of leadership; they are not cattle; they are intelligent human beings. Let them exercise their intelligence and all will be well.

The condemnation of Lamennais did not prevent other attempts to found a Catholic philosophy which should be "modern" and "progressive." Bautain, who was not a Mennaisian but a Kantian, tried to base religious truth on a kind of non-rational insight which he called faith; he was made to retract in 1840, admitting that "Reason can prove with certitude the existence of God and the infinity of His perfection," and that "Reason precedes faith and ought to lead us to it." Bonetty, some years later, a priest and editor of the *Annales de philosophie chrétienne,* tried to win over the Church to a similar doctrine. He urged a purification of dogmatic tradition and a return to the Bible. He was condemned in 1855. In 1870 the Vatican Council settled the matter once and for all. Faith was declared to be superior to reason, yet reason was declared to be the one instrument man had by which he could lead either himself or another to faith. The Church saw, no doubt, that men who had learned to distrust the reason after long years of using it, were much more dangerous than simple-minded men who willingly gave their faith because they could not reason. After all, reasons are largely relative in their charm and strength. If the greater part of mankind—including popes—is satisfied by the reasoning which it employs to prove its ideas, it cannot be convinced that Reason is not with it. The condemnation of this very friendly propaganda was what historians like to call "inevitable." It would have played into the enemies' hands, not to condemn it. "As if the word of God, who neither errs nor causes error, could be incompatible with human reason," said the Vatican Council.

Yet the Church's action left the clergy without a philosophy. Six years after the Vatican Council, Pope Leo XIII supplied this need when his encyclical *Æterni Patris* urged the study of St. Thomas Aquinas in all Catholic institutions. The revival of Thomism in modern times is one of the most amazing examples of the intellectual vigor of the Aristotelian tradition. Since 1876 Thomism has become the ruling philosophy of the Church and has produced a unanimity of philosophic opinion which has never before existed, even in the time of its originator.

The course of the history of philosophy is often deflected by obscure and apparently trivial events. One such was the establishment of the *Institut de France* whose *Second Class,* which later became the Academy of Moral and Political Sciences, was directly concerned with the progress of philosophy. It was the custom of the various classes of the *Institut* to offer prizes periodically for the best essays on various subjects chosen by its members. Some of the most noteworthy contributions to French philosophy in the nineteenth century were made in competition for these prizes.

In the beginning of the century the ideologists were still in control of the Second Class and in 1799 they proposed as a prize subject, "The influence of habit on the faculty of thinking." One of the contestants in this competition was the young Maine de Biran (1766–1824). No prize was awarded, but Biran's essay was given honorable mention. The contest was reopened in 1801, and this time Biran's essay was unanimously awarded the prize. Destutt de Tracy, who was chairman of the prize committee, spoke in the most eulogistic terms of the essay which he (and Cabanis as well) thought continued the ideological tradition in the most orthodox fashion.

Habit in French philosophy of the eighteenth century was charged with a heavy burden. It was made to explain the formation of abstract ideas, of the association of ideas, of memory, and of anticipation. It was supposed to do all the work which an "active" soul was called upon to do in the doctrines of the English Platonists and the followers of Rousseau. Yet because it was essentially nothing more than the repetition of old experiences, which in the eyes of the ideologists were fundamentally sensory and hence "passive," it was believed that the apparent activity of the mind was in the last analysis delusive and that no immaterial soul, different from the stuff of physics, need be invoked to account for any of our mental operations.

Maine de Biran, however, as early as 1794 had been anxious to discover how far the soul is active. He had none of the revolutionists' desire to deprecate it, to minimize its importance. He had no fear of seeming to aid religion, of wearing the habit of a mystic. On the contrary, as his development showed, he had a decided *penchant* for the religious side of philosophy, and his early wavering toward ideology was but the effects of a reigning philosophy upon the young.

The essay on habit revealed that man's psychic life was twofold, consisting of passive and active *impressions.* Passive impressions were *sensations,* the effect upon the organism of external forces: the warmth or cold which one feels in spite of oneself, the pleasure or pain which involuntarily arises in connection with certain experiences. Active impressions involve the causal efficacy of the individual: they are experienced in movement when the individual feels himself to be a cause. But in actual experience these two sides of impressions are so closely connected that they unite to produce almost all the elements of consciousness. Yet they are present in differing degrees; when passivity predominates and movement is very slight, the resultant experience will be called a *sensation;* when activity predominates and sensation is slight, the resultant experience will be called a *perception.* An analysis of the five senses shows that they each have a sensory and a mobile (perceptual) side.

In perceptual experience, however, there is discovered a new element, the awareness of *effort.* We are not conscious of being the cause of anything unless we exert effort. But we do not exert effort unless we are aware of an obstacle to our movement, which obstacle is not of our own creation (cf. Fichte). Hence, curiously enough, the consciousness of effort gives rise to the idea of an external world, in the manner of Destutt de Tracy, and at the same time reveals to the individual his will. Effort, in the first place, is a mean term between our motor force and an object's resistance; when the resistance is slight and the force exerted slight, then effort diminishes. It increases as they increase. In the second place, when movements are effortless, the will—and hence the individual's personality[1] —is at a minimum. The effect of habit turned out to be a gradual obscuring of sensation: frequently repeated sensations ended by becoming unconscious. Contrariwise, the repetition of movement increases its precision, makes it more skillful but at the same time eliminates it from consciousness by decreasing the amount of effort needed to produce it. Thus an effortless movement may be habitual as well as involuntary.

In 1803 Biran made a step forward in the development of his philosophy. He now, in an essay on the "decomposition of thought," introduced the notion that for us to be aware of our sensations there must be present an "idea" of a sensation. This is similar to what is called in philosophy of the present day "an act of awareness" or "intuition." It would not be enough that the simple sensation be present. This perceptual act, like a beam of light, must illuminate the sense datum. A being reduced to passive sensibility, he maintained, not only could not acquire any idea of objects external to him, but also could have no consciousness of his own sensitive being, could not be an individual person, and could never say "I." This consciousness of the self, which originally had been a humble feeling of muscular tension, now became supra-sensory. It was a primitive fact of all knowledge, discovered by a peculiar inner sense.

If this was true, the question arose of how our knowledge of the external world was related to our self-consciousness. He answered it by saying that the fundamental categories by which we understand it are really the basic characteristics of our selves. We used the categories of substance, cause, unity and identity, because we are substances, causes, units, and self-identical. By "substance" he means both a particular "thing," a subject as contrasted with a predicate, and an underlying something which has attributes but never is an attribute. We consider ourselves to be substances in that way: we are nouns, not adjectives. A cause is the producer of something, an agent; and that we feel ourselves to be when we exert effort. A unit is a group of things which are "bound together," as our various experiences are bound to form our one conscious life. We do not feel ourselves to be a plurality but, on the contrary, feel that underlying the variety of emotions, desires, impulses, often conflicting as they are, there is a fundamental unity—most truly the Self. Identity we attribute to things as they change in time, maintaining that the stone, or the tree, or the child is the same stone or tree or child in spite of the modifications which time and the seasons may entail. So we, though we are never exactly the same from day to day, feel a continuance of our identity in memory.

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[1] This notion, that the individual was his will, was also derived from Destutt de Tracy.

If our fundamental categories of science are projections of our own traits, perhaps man would do well to turn his eyes inward. Biran did so and thought he found within himself not the simple arrangement of his youth whereby the Ego resided in comfort surrounded by servants in the form of sensations and perceptions, but a conflict between the body and the Ego in which the Will existed for the body's repression and the Soul's liberation. The Will thus was on the road to complete sovereignty. The human person became beyond the reach of reason, indescribable, ineffable. It was unknowable except by a mystic fusion with it. Biran analyzes man's progress into three stages: (1) that in which man is nothing for himself and everything for his fellows, (2) that in which man draws into himself to abandon the external world, (3) that in which both man and his fellows drop out of sight and God becomes the object of his thoughts. In the lowest stage there is no effort and no Ego; in the second stage there is a predominant Ego; in the third, the Ego is lost in its fusion with God. Effort as a spiritual factor is the religious longing for the divine. Biran's spiritualism with which he ended his life is pure mysticism. The philosopher of the Ego becomes a philosopher who, like Schopenhauer, preaches the need of denying the Ego.

The evolution of Maine de Biran's thought in his own life is not unlike its evolution in French history from its adaptation by Victor Cousin, through its many modifications to Bergson.

It is likely that it would have remained but the unpublished reflections of an obscure and modest ideologist, had it not been for the political necessity of finding a French name to sponsor the new French philosophy. When the chair in philosophy was established in the Sorbonne, it was occupied by the statesman, Royer-Collard (1763–1845), who for two years and a half lectured on the Scottish philosophy of Reid. Royer-Collard's problem was to find a doctrine which would be midway between the political individualism of the ideologists and the exaggerated socialism (political, not economic) of the Catholics. For philosophy had now definitely taken on a political complexion, and Napoleon could find an apologist neither in republicanism nor in legitimism. The doctrine of Reid substituted common sense for the ideologists' sensations and the Catholics' tradition; it seemed to imply constitutional monarchy instead of the ideological democracy and the Catholic absolutism; it believed in the state (the individual plus society) instead of the ideological individual or the Catholic "society."

It fell to the lot of Victor Cousin (1792–1867) to carry on this tradition of the *juste milieu.* But he could not leave his philosophy under foreign auspices, even though they be so austere as those of Reid. And the only typically French philosophy at hand seemed to be that of the ideologists. Maine de Biran was a godsend to this clever young man, and he conceived the bright idea of combining all three into a new system. Ideology would stand for sensation, Reid for knowledge, Maine de Biran for will. Instead of making one of these functions fundamental and deriving all the others from it, he would assert the fundamentality of them all. He would proclaim the Soul to be tripartite in its functions: active in the will, passive in sensation, and a synthesis of both in knowledge.

The apparently paradoxical nature of "knowledge" was foreshadowed in Biran's essay on habit. But Cousin had other good reasons for emphasizing it. A trip to Germany had brought him into contact with both Hegel and Schelling. The latter, he maintained in his private papers, had discovered the true system of philosophy. But it would never do to admit that in France, where he was already called a Germanophile. Instead he loudly proclaimed its purely French origin. Now Schelling had read into the universe as a whole the very paradox which Cousin inferred was typical of knowledge. He had spoken about the freedom and determinateness of Nature as if they were both "aspects" of the same thing. So Cousin maintained that knowledge was both free and determined. As free, it was "spontaneity"; as determined, it was premeditation, reflection. Spontaneity furnishes the stuff for reflection to organize; reflection furnishes rational guidance for spontaneity. Spontaneity without reflection is blind; reflection without spontaneity is empty. They are two interdependent forces, and they correspond to causality and substance in Nature.

Reflection is impersonal: we all must use the same laws of reasoning; logical truth is over-individual. But spontaneity—which corresponds to Biran's will—is the essence of personality and, as it furnishes reflection with its subject matter, our knowledge will always be tinged with a personal hue. But there are four types of personality: the sensualist who seeks truth in his five senses, the seeker after ideals, the doubter, and the mystic. (These are obviously the affirmation of sensation, the affirmation of the will, the denial of sensation, the denial of the will, where "sensation" means "perceptual knowledge," and "will" "personal aspiration.") Whence there will always be four types of philosophy: sensationalism, idealism, scepticism, and mysticism. But just as knowledge itself is a synthesis of sensation and the will—passivity and activity—so true philosophy is a synthesis of the four major types. It will grant to each of our faculties its due; it will be a just and impartial eclecticism.

Yet Cousin was never either just or impartial. He granted neither to sensationalism, scepticism, nor mysticism anything like their due. Nor could he. For they were all mutually contradictory. He arrived finally at a kind of pantheistic idealism which was as edifying as a religion, and as solemn. He was the official philosopher of the Bourgeois Monarchy, and he so completely controlled the university system of France that philosophers who were not eclectics could find no position. Fearful of the results of philosophic invention, he oriented his pupils toward the history of philosophy, and many of them did brilliant and valuable work in that field.

There was, however, rebellion in the camp. Cousin's young friend Ravaisson (1813–1900), whom he sent to Germany to study with the great Schelling, came back to

France with the seeds of anti-eclecticism. They sprouted in a thesis on Biran's subject of habit and flowered into a new variety of spiritualism.

Biran investigated habit to determine its effect upon thought, but to Ravaisson it had a wider application. Habit, he found, occurred only in things which changed "internally," not in things which simply moved about from place to place. A stone changes its position but is unmodified by habit; a plant is rooted to one spot but can acquire new habits. The one is lifeless, the other alive, whence habit is seen to be a function only of living things. But persistence and change are found alike in the lowest realms of being, since all things exist in both space and time, and since space is the condition of permanence, time of change. But change on these lowest levels, mechanical union, the attraction of two opposite electric charges, chemical synthesis, is accomplished without a time lapse. Change is homogeneous throughout the matter which undergoes it; there is no growth and therefore no habit. This, of course, is pure Schelling.

In the organic world, which is the world of time, change is not a homogeneous phenomenon sweeping over the whole organism; it appears here and there, proceeding step by step; there is succession and heterogeneity; there is individuality. The conditions of habit are a single subject developing its internal potentialities. Life thus forms a world of its own, a world of freedom, which is contrasted with the world of necessity which is matter. Yet though habit modifies the nature of the living being, life is subject to the general laws of matter since it appears in the world of matter. It is in perpetual combat, however, with these laws which it strives to surmount and overcome. Thus life "implies the opposition of receptivity and spontaneity." The reader will no doubt immediately see the parentage of this doctrine.

But now as life develops it becomes more and more free, for the effect of habit is to liberate its spontaneity by making the mechanical "second nature." The vegetable world has so slightly emerged from the purely material realm that it is but slightly influenced by habit. But animal life, which has triumphed over space to the extent of moving about in it freely, becomes more and more a temporal existence, progresses more and more definitely toward spontaneity, and by habit frees itself more and more from the claims of matter. It is shown in the frequent examples of periodicity in animal life.

What is the end, the goal of habit? What does it serve to liberate life from matter? Why should not life sink into the lethargy of vegetables and the immobility of stones? How could this progress in so many forms of life go on without a common focus from which receptivity grows weaker and spontaneity stronger? This could only happen if suspended between the two currents, like Descartes's soul in the pineal gland, there were a directive agent, a judge to know, estimate, foresee, and decide. And what, indeed, would this judge be if not "that which is called the soul"?

The soul exhibits in its turn the same traits as life. It too has its receptive side—in its knowledge of quantity (space)—and its active side. Its activity is made self-conscious in *effort,* as in Biran, whence arise our notions of volition and personality. As the soul is suspended between matter and life, so effort is a mean term between passivity (sensation) and activity (perception). It is purely a temporal form of existence and is the source of our personal activity. The effect of habit on effort is to lessen the difficulty of performance, whence the *feeling* of effort (which is passive) grows dimmer and the efficiency of effort increases. The end of life is pure spontaneity which rises above both reason and the will. It is the Aristotelian realization of forms going on in Nature.

If this is to proceed without the clear ideas of the intellect —and it is apparent that it must in the lower forms of life —another force must take the place of intelligent prevision. That force Ravaisson finds in desire. But this desire cannot be individually lodged in each animal, since its tendency is to reduce will and consciousness to instinct, in regard to which all individuals are alike. Thus the lowest forms of life seem to be the most thoroughly under the sway of habit; and the highest, the least. The panorama of animal evolution shows us this picture in detail. But it also shows us above the rhythm of bodily activity and passivity the soul which in its pursuit of the values, goodness, beauty, and truth, seeks a means—through "spiritual" habit—of automatically attaining them. This is the realm of *love.* Love is the desire of the eternal values which are the god within us. It is pure activity creating and serving its own ends. It corresponds in its over-individual aspects to the Prime Mover of Aristotle whose life was spent in thinking about thinking.

This philosophy was sufficiently vague and edifying to compete successfully with eclecticism. It had all the lofty aims of the official philosophy and, because of its originator's greater learning it had, moreover, a certain elegance which gave it *bon ton* in non-academic circles. One might compare it to the art of the Second Empire which was also slightly melancholy, very polished, highly gilded and at heart empty and vain. Ravaisson seems to the writer of the present book, a man very much like Mérimée or Dumas *fils* in literature and Monticelli in painting.

But we are not concerned with his value; we must think of his influence. That tended to orient people toward indeterminism. If one was to believe in the spontaneity of the human soul, one must show the possibility of indeterminism in the natural order, which, on the contrary, was seeming more and more to be absolutely determined by rigid laws.

This need was filled by Boutroux (1845–1921), a pupil of Ravaisson. Boutroux's major piece of constructive work was his *The Contingency of the Laws of Nature.* The general tradition that had prevailed in Europe since the Renaissance was that natural law had a kind of absoluteness and rigidity about it which made it the stock example of the certain. The contrast between the determinism of Nature and the freedom of Man was a product of this tradition. Boutroux's study tried to show that these laws were not absolutely certain but were, on the contrary, relative to certain assumptions and hypotheses which themselves were not even demonstrable.

Now there are two important interpretations of contingency. One is that the contingent is simply the relative; the other, that it is the undetermined. Cournot (1801–1877) had already shown not only that the truths of science were contingent in the first sense but in the second sense as well, for to him "chance" was an objective reality and not merely the result of our ignorance. He was, in fact, a student of the mathematics of probability and knew that some events were of such a nature that their occurrence could not be predicted with certainty.

Boutroux, however, interpreted the objectivity of chance as evidence of "freedom," which of course it is not. Events which can only be relatively predicted through the calculus of probabilities may be simply too complex for absolute prediction. A true test for indeterminism is whether a given set of "causes" in a given set of conditions can produce at least two different effects at different times. But Boutroux was thinking of human freedom, the pursuit of "ends" and values, what he called the philosophic rather than the scientific realm. He was willing to let science be deterministic, but insisted that philosophy be "finalistic." It seemed to him that a mechanical universe could not achieve ends, whereas a universe in which chance entered could.

To justify his attitude, he thought of the universe as existing on levels—in the Schellingian manner—the lowest levels the least free, the upper the most. Below them all would be a level of brute matter in which contingency would be infinitely small. At the top would be the world of human thought in which the contingency is greatest. Consciousness for Boutroux was an assimilation of all existence into what are known as "ideals." It is a new being emerging from the level of life. It is a direct link between life and most free being—God. This evolution of all existence toward the search for ends, previsioned even in the lowest stages, is the final picture which Boutroux gives us of the world. It was put into systematic form by Henri Bergson (b. 1859).

Bergson's famous doctoral thesis, *The Immediate Data of Consciousness* (translated as *Time and Free-Will*), was published in 1888. Boutroux's *Contingency of the Laws of Nature* came out in 1874. Between these two dates the energies of France were directed to a reconstruction of her national discipline, so severely shaken by the war of 1870, the loss of Alsace-Lorraine, the Commune. Few nations have felt humiliation more deeply. As a result, that self-confidence which is vital to the production of philosophic systems was lacking and men turned to German thought for inspiration. The prestige of Germany was greater than it had ever been before in France, and the dominant philosopher was Kant. Maurice Barrès has left us a picture in *Les Déracinés* of the Kantian professor of philosophy who preached the Reason's impotency in dealing with Reality and condemned his auditors to a life of self-criticism.

Kantianism found a continuator in France in Renouvier (1815–1903). Renouvier was a contemporary of Ravaisson, but was so bitterly opposed to the Second Empire that he remained in the intellectual background of his time until after the Franco-Prussian War. He then offered his version of Kantianism to the new republic which was being formed, as its guide in matters of politics and ethics.

But Renouvier was also influenced by the social philosophers, Saint-Simon and Comte (1798–1857), and it will be fitting to introduce his philosophy with a brief account of positivism.

We have not the space to give the details of the predecessors of Comte's positivism. Both the ideologists and the Traditionalists contributed to it, or at least contributed toward making it acceptable to the French. For positivism was a plea to abandon metaphysics, and both ideology and Traditionalism were agreed on that issue, though for entirely different reasons. To the revolutionary philosophers as a whole, metaphysics meant supernaturalism and specifically Catholicism. It meant the investigation of "first causes" and "inner natures" which were not discoverable by the ordinary instruments of the scientist. It meant also the kind of nonrational truth to which Rousseau pretended to have access. To the Traditionalists, on the other hand, metaphysics was a substitute for religion. It meant free thinking, rationalism, the ability of each man to discover truth unaided. It meant anti-Catholicism, "philosophy," as the word was used in the eighteenth century. The ideologists substituted the analysis of the human mind for metaphysics; the Traditionalists substituted Catholicism.

According to Auguste Comte, metaphysics must be abandoned because we have outgrown it. It represents a legitimate stage in human development, but it is a stage which is by no means final. The race, like the individual, goes through three stages: infancy, youth, and maturity. The infant believes that not only all his toys but also all natural and artificial objects are endowed with a will like his own. He talks to them, scolds them, punishes them, asks favors of them. So the savage invests every tree and stream, the clouds and mountains, with a personal will. As the child grows older the number of wills grows smaller; he now knows that his table and chair have no will, but he still fears the dark or the thunder and imagines that the rain is a person. So the Greeks reduced the number of gods they had to the number in the Olympian Council, but nevertheless carried along a remnant of more primitive beliefs in their myths about nymphs and dryads and fauns. This method of explaining what happens in the world as the operation of a will, in more sophisticated peoples develops into monotheism, but whether the will be one or many is a minor point. This first stage is called the theological.

The theological stage has certain social characteristics. Thus, the principle of a will is represented in government by a monarch. A king is in essence a god upon earth; and simple-minded people even today, who are—like the turtle—left-overs from a more primitive stage, cannot understand how a government can run without a controlling will at its head. The real rulers of such a social stage are, however, the priests who alone have an entrée into the arcanum of the Divine, who alone understand its motives and can interpret them. To interpret the workings of a will requires not reason but sympathy, which in the long run is a form of magic. Priests are expert magicians and can control even the king with their talents.

Man soon learns that nothing is gained by personalizing the forces of nature. He advances as a youth into speaking of essences and powers, of life forces and entelechies, of affinities and repulsions. These are the same as the wills of the theological period except that they are depersonalized. They are hidden, unobservable forces, nevertheless, and almost as magical in their behavior as gods; the main difference is that we do not pray to them. (That for Comte is a decided advantage which must not be minimized.) This method of explanation, which is called the metaphysical, has its political counterpart in the theory of popular sovereignty. Instead of a personal ruler, the abstraction, "sovereignty" is put in control of affairs; and since it cannot be situated in an individual, it is, so to speak, spread out over the people as a whole. The eighteenth and nineteenth centuries were politically metaphysical. Corresponding to the priests as the power behind the throne were the jurists, who alone were capable of handling the essences and powers which were so reverenced in this period.

Comte believed that the human mind was just beginning to emerge from the metaphysical period. Evidence of its emergence was found in the campaign of the revolutionary philosophers to abandon metaphysics and substitute for it the observation of facts, with laws of nature, the correlations of phenomena taking the place of essences and their fellow abstractions. The stage is called the "positive." In it man is content with "appearances" and does not seek an assured "reality" underlying them. First causes, substances, "explanations," are abandoned for correlations, functions, and mathematical descriptions. Society in the positivistic stage will supplant the sovereignty of the people by that of experts, who alone in an age in which science is mature know what is true and what false, what is good and what bad. Behind them, in place of the jurists and their predecessors, the priests, will stand the industrialists, who in modern society are, as a matter of fact, the moving power. The positive society is based upon a consciousness that economic forces really govern society and upon a willingness to be realistic about it. Ironically enough, though Comte did not seem aware of this, the economic forces are not "phenomenal"—*i.e.,* the forces which *seem* to be running society—but "real," in the same sense that substances and powers and even theological wills were supposed to be real.

The development of science is to Comte evidence of his law. As science develops it becomes mathematical. But mathematics, which tells us the order of things and not their nature, being indifferent to the qualitative peculiarities of what it studies, is essentially positivistic. It began as a purely utilitarian science, being used to measure land (as geometry), and passed through the theological and metaphysical stages, as readers of this book have already seen if they will recall the uses to which it was put by the Pythagoreans and Neo-Pythagoreans. It has, however, long since passed out of these stages into the positivistic, wherein it is the science whose subject matter is all-inclusive and ultra-simple. By its means astronomy, which began as astrology, was developed, then physics, chemistry, and biology. Each successive science adds to the complexity and reduces the generality of its subject matter. Thus chemistry uses physics, but has a narrower field; biology uses chemistry, but studies only the living. The later sciences still retain bits of metaphysics, physics in its forces, chemistry in its atoms, biology in its "vital fluids" and "entelechies." This was written a hundred years ago.

There is one more science awaiting development, the science of society, or sociology. This, when made positive, will yield us definite laws for the improvement of mankind—one sees the Baconian equating of science and "power" reappearing. When we know the laws of social progress, we shall not need to consider the question of individual consciousness. The individual will drop out in the action of the mass and will have to abandon the delights of free inquiry for the good of the whole. Each will have his appointed place in the social organism, and the eighteenth-century ideal of equality will be replaced by that of fitness. Comte's vision of society is like that of the Traditionalists, except that he thought of the industrial hierarchy and they of the religious.

The later years of Comte were spent in fantastic efforts to develop the political regimen of this social order. His influence at once bifurcated, on the one hand going into the cult of Humanity and the foundation of a new positivistic religion; on the other, into philosophy proper. We have not the space to trace these developments, unfortunately, for they are extremely interesting. Positivism as a religion attracted many of the soundest heads in England and to this day survives in Brazil. Positivism as a philosophy profoundly modified French thought; one sees it in men so different from Comte as Taine and Renan. Finally, by the plea for a scientific sociology, for the recognition of the importance of social forces upon our ideas, Comte gave rise to that brilliant group of cultural historians headed by Durkheim.

In spite of Comte's influence upon philosophy, his general program was such that his followers were bound to leave the major problems of philosophy untouched, as if denying their existence solved them. Other philosophers, like Taine and Renan, were occupied in social and literary problems to the exclusion of metaphysical. Renouvier, however, though profoundly stirred throughout his life by the practical affairs of the day, nevertheless found the time to work upon those abstract problems which the great philosophers have always believed prerequisite to the solution of the more concrete.

Like most followers of Kant, Renouvier abandoned things-in-themselves. If they are unknowable, one may as well say nothing about them: they are as good as non-existent. This leaves him with the world—if world it be—of phenomena, a world of pure experience. Most people, following Hume, have conceived of these phenomena as impressions subjective in their nature; but Renouvier was logical enough to see that if all things were phenomena, phenomena could be no more one thing than another, and that therefore they could not be either subjective or objective. They must be that out of which the subjective and objective worlds are distinguished. They are from one point of view "ideas"; from another, "things." Their relations are determined by certain categories, as in Kant, which categories are the ways in which the human mind thinks and are not imposed upon the mind by the nature of the world revealed in observation.

Renouvier, like all philosophers, held certain ideas in abomination. Among them were infinity and unity. He, like James, was a lover of the discrete and definite, the various. In his earlier years he maintained that not only were there many ununited subjects, but that the world was created and governed by many gods. In his later years, after the war of 1870, when he tried to combat Rome by winning over the Protestants to his camp, he admitted the existence of one God, but insisted that He be as limited, as finite, as other minds. His pluralism thus differed from that of Leibnitz in that it had no room for a preëstablished harmony nor a monad which mirrored with absolute perfection all the others.

The purpose of Renouvier's pluralism and theory of divine finitude was to provide for human freedom. The will of man was not "spontaneous" as in Ravaisson and Schelling, not a separate "faculty" from which originated all human activity. It was knowledge itself which was volition. Each idea carries with it a suspicion of future consequences which might or might not be realized. A "representation" is not simply an image of something; it is also an evocation of action. It requires no "will" behind the scenes to jerk the puppets' strings. It is both puppet and puppet-master. But if each idea carries with it a determination of the future, then the future is never completely determined in advance but, as each moment of time appears, is slightly deflected from the path it would have followed had that moment been different from what it was.

This unpredictability of events, which is not indeterminism, is linked with Renouvier's theology. In his early years he accepted whole-heartedly Kant's doctrine that the reason could prove antithetical propositions about reality. But whereas Kant maintained that therefore the reason was incapable of handling reality, Renouvier concluded that therefore reality was self-contradictory. This result was, however, unsatisfactory, since it made all propositions about the universe equally true; and Renouvier soon understood that such a conclusion was the condemnation in advance of all philosophies. His way out was the decision that any proposition implying an actual or real infinite was false. The concept of the infinite was, he admitted, of great value in mathematics, but any real thing must be of some definite quantity, and hence cannot be infinite. This soon led him to denying those theses in the antinomies which implied an endless series of phenomena in time and space. He boldly asserted that some things must have begun the series without themselves having been caused. God is such a being. He has not existed from eternity, nor has He been caused: He has simply come into being and started all other things.

In a similar manner the will of the individual as it contributes to the course of events introduces an element of uncaused novelty into history. We are each of us relatively divine in that we help make events what they are. We are not completely undetermined as God seems to have been, but in so far as we are human individuals we have a degree of indeterminism in our conduct. The practical effect of this doctrine upon French thought was the reassertion of individualism against the organicism of Comte and the post-Kantians. It once more permitted the French genius to raise its head despite the solemn warnings it had received that man was but a product of environing forces, and that his salvation was in living as such.

The 'seventies and 'eighties were not times in which individualism was in very good odor. In theology God had become an all-pervading Absolute; in philosophy the mind had become a transcendental Ego; in ethics the good of something called the Whole had absorbed the good of the Many; in psychology the will was resolved into universal mechanical laws; in politics the individual was fused into the state. To have the voice of Renouvier protesting against that dominant tradition meant much for the future of French thought and, through his influence on William James, of American thought.

His importance did not appear during his prime for the simple reason that the official philosophy, eclecticism, occupied the minds of the academes, and the unofficial philosophies of Taine and Renan occupied the minds of the public. Taine and Renan, who wrote brilliantly but after all without much depth, helped to discredit eclecticism but did nothing for the restoration of philosophy of the great tradition. Both succeeded in the long run in discrediting it, Renan by confusing it with the victory of the human spirit, much in the manner of Croce in our own day, Taine by confusing it with the conditions under which it arose. These two men were very different both in their methods and in their starting points. But the fact remains that the net result of both their philosophies was the same as far as the prestige of philosophy in general was concerned.

The rise of Bergson upon the philosophic scene was therefore of the greatest importance to French culture. It made systematic philosophy once more a legitimate occupation; it ratified the French craving for individualism, freedom, novelty; it gave science its due in seeming to base its conclusions on the very popular science of biology; it once more gave a philosophic guide to French art, politics, and religion, to French "life"—as the word is loosely used—without which the French seem never to have been satisfied.

Bergson's philosophy was based upon Schelling's old principle that the cosmic levels nearer life were more "free" than those near matter, and that freedom and determinism were the two extremes of reality. Freedom was preëminently found in "life," determinism in "matter." The contrast in Bergson is made more pronounced by an examination into the nature of life as revealed to us in our own consciousness. When we introspect, we find that our conscious life is not a succession of discrete "states" cut off sharply from one another, but a steady flow of one state into another, a process in which, moreover, the past is somehow carried along in memory and grows into the future. A rock in a field, which we may call the type of material object, does not grow in that manner: things are done to it; it does nothing. It passes through time; it does not live in time. Time is indifferent to it. It is relatively the same yesterday, today, and tomorrow, except for the slow forces of corrosion and erosion. It is essentially spatial, geometrical; it can be chopped into bits and every bit will be as good a sample of the whole as the whole itself; it is thoroughly understood by analysis. The living thing, however low in the scale of evolution, is fundamentally different. Therein we see not merely the interaction of mechanical forces, but growth. Life works through matter but transcends matter. It has a direction of its own which is not the direction of antecedent forces acting upon it. One can predict the course of a ball from the direction of the force which throws it. That acorns and the maple keys grow into oaks and maple trees and not into palms and cabbages is not to be explained by the chemical constitution of the soil nor the amount of water fed them nor the light and heat, but by the inner nature of the seed. What mechanical conditions determine that sparrows hop and partridges run?

The inner force which pushes life on, utilizing matter to its own ends, is called by Bergson the *élan vital*. It is found in the individual in his growth, in the race in its variations. The individual finds that the greatest source of his modifications is his desires, dumb and inarticulate as they usually are. They send him toward food and drink, toward sport and art and science; they build up the athlete's muscles and the sharpshooter's eye. They are buds which flower in a variety of blooms. So in life as a whole we see a variety of tendencies, one resulting in the vegetables, one in the animals and men. And among the animals we see the same plasticity,—flyers, swimmers, climbers, burrowers, crawlers; the sluggish, the swift, the offensive, the defensive; the tree of life branches in all directions.

Reality then may be said to move in two directions, that of life (time) and that of matter (space). Each of these tendencies is known by a special kind of cognition. Duration, which is the appearance of new qualities, is known only by immediate perception; reason cannot tell us the difference between red and green; perception here is sovereign. But extension, which is the basis of quantities, is known only by the reason; perception can feel the difference between two pounds and four but reason alone can explain it and measure it accurately. Thus wherever there is life, there is an ineffable quality which escapes reason and must be "felt" (*intuited,* Bergson would say); and wherever there is matter, there are quantitative laws which defy intuition. Science, which is instituted by the reason, can thus deal most effectively with physics and chemistry and least effectively with psychology, history, and æsthetics. But at the same time intuition, which grasps so perfectly the inner nature of life, is left gasping before physics and chemistry.

The gulf between the spatial and the temporal seems too wide to be bridged. But Bergson bridges it in the same way that Leibnitz and Schelling did. As it would be next to impossible to derive action—time—from inert matter, he derives inert matter from action. For action admits of degrees. Like the force of Leibnitz's monads, it may be great or small, lively or sluggish. The *élan vital* varies in the same manner. In some creatures it is spirited and adventurous, ever inventing new ways of satisfying itself; but in others it is feeble and relatively inert. We see its modifications in our own lives as our ways of living become habitual. Habit materializes life, hardens it into set paths until its behavior is as predictable as that of falling bodies. Looked upon from a more inclusive point of view, matter is dead life, or life which has become so frozen by habit that it has lost all initiative.

Just as matter as a whole is dead life, so within life we see a tendency toward habit or materialization. It is seen first and preëminently in the appearance of vegetables. Vegetables are life that has sunk into a torpor. They have become on the whole immobile, except as they turn toward the sun, open their petals, or reach down through the earth for moisture. They find their food in the soil which surrounds them and the rain which falls upon them; when the food supply is exhausted, they cannot, like animals, move on in quest of more, but are doomed to perish. Throughout life we see this tendency toward torpidity. We see it in those marine animals which are fastened to rocks and absorb their food from the water which washes over them; in various parasites; in animals like certain reptiles which seem to have given up the struggle and, relying on hard shells and spikes or fetid odors, steal abroad at night and lie hidden while danger is possible.

Among the animals there is another split—between the animals proper and the insects. Using again the Bergsonian criterion of "tendency" as a differentiating characteristic, we see that the main difference between animals and insects is their instrument of knowledge. Animal life tends toward the use of reason; insect life, toward the use of instinct. Man best illustrates this among animals; the bees (and other social insects) among the insects. Man's two major problems are his adjustment to his fellows and his control of the material universe. In solving the first, man is as bungling and clumsy as he is successful and sure in handling the second. Why? Because the reason is made for controlling matter, for geometrizing and analyzing; its categories are those of the material universe—quantity, cause and effect, and the like. But when it is turned upon life, it is imbecile. Yet we try solving our social problems by its means and wonder why they do not yield to its power. They can no more yield to it than odors can be photographed. The insects, on the contrary, have solved the social problem perfectly but have relatively little control over the material universe. The beehive acts as a single individual. The workers work; the drones fertilize the queen; when the nuptial flight is over, they are ferociously driven from the hive; the young bees are born and fed and reared with exquisite efficiency and without deliberation. In such communities—which are the ideal of many of our contemporary socialists and Fascists—there is no need of thought: it is replaced by instinct. The marvels of insect instinct have been famous since the observations of Fabre, and though it is not infallible, it is so extraordinarily successful that it merits all the encomiums heaped upon it. But with this social efficiency goes a routine life which is horrible to most men who are not demagogues.

The great difference between animals and insects is typified by the kinds of tools each uses. Man—the possessor of reason—has been able to use his power over matter for the construction of tools which are detached from his body. He is thus able to pick up and lay down the instruments he needs, and by means of his hands alone—for the most part—to take to himself new limbs in the form of monkey wrenches, screw drivers, hammers, and so on. This invention has given him greater plasticity, since he is free to use whatever tool he needs. The insects, on the other hand, have grown their tools. When they need scissors they use their mandibles; when they need a trowel they use their feet. Their tools—an astonishing array when fully catalogued—are parts of their body, and, perfect as they are for their purposes, they are available only to the being who possesses them. Insects are thus doomed to a very narrow life of production, whereas man's limits seem daily farther away.

This difference reveals the essential divergence of intelligence and instinct. Inorganic tools mean choice; organic tools mean a lack of choice. Choice involves consciousness; we cannot choose unless we are aware of our problem. But instinct is like a reflex; it acts without consciousness. Consciousness for purposes of choice involves a knowledge of the relational structure, the form, of things. It implies our ability to say, "If this, then that." It is hypothetical. Instinct, on the contrary, demands no such consciousness. It is not knowledge of relations, but of terms. It says not, "If this, then that," but "This is so and so," and acts. It is categorical, not hypothetical. A being who was purely rational would have knowledge of no existents, would simply know that *if* things were of a certain kind, certain consequences would follow; but he would never know whether things were of that kind or not. Yet it is a guide to action for the very reason that it can imagine contingencies which are not before the eyes. Fortunately for us, we still have a remnant of instinct left us, as men still carry about vestigial breasts or as seals have claws on their front flippers. By turning our backs upon instinct, we are in danger of losing it altogether; it may completely atrophy. Our immediate problem is to rescue it, to utilize it; for it alone can find what the intellect alone can seek.

This message of Bergson, though not new, struck his readers with a sense of novelty, for it had been relatively overlooked in the increasing progress of the mechanistic interpretation of nature. Men immediately concluded that art, religion, and politics, that all human institutions which had to do with life must be dealt with intuitively. The reason was definitely relegated to a subordinate position as it had been in Schopenhauer and Nietzsche; but, as in Nietzsche, man was urged to live and not to deny life and to seek Nirvana. The mind was given another push toward voluntarism. Action, vitality, creativity, were the new values; contemplation, repose, and speculation were abandoned. Men found new sanction for their desires in this philosophy which made desire the source of new organs, of new forms of life. The period between 1890 and the War could justly be called the Bergsonian period. Among its fruits were the political theories of Georges Sorel, the neo-Catholicism of Péguy, the novel of Marcel Proust. Futurism as an æsthetic program may be directly traced to this temporalistic philosophy. Time was now finally established as a part of reality, and no one dared assume that the future was just a repetition of the past.

Bergson is not an anti-intellectualist in the full sense of the word. He gave the intellect its due and it was an important adjunct to the business of life. But what was of more importance was what he deprived it of. That it was not omnipotent was what seemed novel to his contemporaries—though it was not novel—and that was the direction they followed. Since the War and Bergson's retirement from the Collège de France, the movement has been in the other direction; and the present leaders of French thought, Messieurs Brunschvicg, Lalande, Lévy-Bruhl, Meyerson, Charles Maurras and his associates, seem to the writer in reaction to the anti-intellectualistic trend. This is due to their dominant interest in the actual procedure of human thought, particularly as exemplified in science. Freed from the last traces of the spiritualism which was very marked in Bergson, they are able once more to orient the mind toward a disinterested study of nature, which was the glory of French philosophy in its great period and which was, of course, the great genius of the Greeks.

Chapter X

NINETEENTH-CENTURY ENGLAND[1]

English philosophy had been left by Hume in what to Englishmen was desperate straits. Having reduced the world to a stream of perceptions with neither causal relations to bind them together nor a unified and enduring self to perceive them, he seemed to be inviting his readers into the halls of scepticism. The very word "doubt" is terrifying to some people. The word "ignorance" arouses them to vigorous attack. Britons would no more be enforced sceptics and agnostics than they would be slaves. There might be problems which they did not care to solve; there must be none which they could not solve if they would. Hence the scepticism of Hume was evidence in itself that the road which he had traveled was wrong. The problem was to find out what was wrong with it.

The fundamental premise of Hume had been, "We can know only our own ideas," the premise of Berkeley, too, and of Locke, and, for that matter, of Descartes as well. "To know" in this phrase meant "to be aware of"; it did not mean "to know about." Nevertheless, as all knowledge, "knowledge about" as well as "knowledge of," was supposed to be derived from the ideas, it was difficult to puzzle out an escape from the fortress of mentality in which we were enclosed into the open fields of the external world.

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[1] The author wishes especially to acknowledge his debt in writing this chapter to A. K. Rogers's *English and American Philosophy Since 1800*, N. Y., 1923.

It will be remembered that the more religious of philosophers did not mind the subjectivism into which this tradition was leading, but did object strongly to the disappearance of the Self. The Self was retained by the pre-Humean English Platonists, by Rousseau, by Kant, as the organizer of knowledge. They all argued that not only did we know ideas but also the relations which held between them. As these relations were not absorbed from the external world, they must be contributed by the mind. This was a world which had a certain structure and durability, but still it was not a world in which the "plain man," so dear to the heart of the British, could easily orient himself. As the task of the British seems to have been to make philosophy safe for democracy, such a situation was extremely disturbing.

Hume's countryman, Thomas Reid (1710–1796), resolved to correct it. A disciple of Berkeley in his youth, he had known all the seductiveness of idealism. But when he saw that the idealism of Berkeley led into the scepticism of Hume, he revolted against it and the whole tradition from Descartes which had brought it about. As far as he could see, there was nothing wrong about Hume's inferences; hence he must attack their premises.

The major premise of Hume was that the immediate data of consciousness are not physical objects but ideas (perceptions, in his terminology). Reid asserted, on the contrary, that the ideas, the presence of which he could not deny, were not the objects of knowledge but signs of physical things which were equally present. Perception involved a physical object, a mental act of perceiving, and a sensation. Thus when Reid sees our well-worn red rose, there are present to his consciousness not only the actual physical red rose but also any sensations of color and odor and touch and so on which it may arouse in him. There is, moreover, also present the mental act of perceiving the flower. The sensations "suggest," to use one of his favorite words, the object but are not identical with it. Nor do they intervene between our minds and it. They are present as accompanying signs.

It was not enough to assert this, for the obvious retort would be, "What does the physical object look like, if not a combination of colors, sounds, odors, etc.?" Reid was required to give some evidence of it. Curiously enough, the evidence was not derived from an analysis of the content, but from the beliefs of the "plain man" about what he perceived. These beliefs were dignified by the name of "principles inherent in all thinking," but the more popular name of "common sense" with all its ambiguities and question begging was also applied to them and with equal reason. Evidence for what all men believed was found in an analysis of language. All verbal judgments were of the form of a subject perceiving an object: "I see a red rose," not "Redness" without further qualification. Hence, one is asked to conclude, there are subjects and objects and acts of perception. But must one not also conclude from such evidence that there is some neuter existence which rains and snows?

The appeal to common sense was an appeal to a kind of universal reason behind our individual reason which was very popular in the eighteenth century. It was used to justify deism, a "natural" religion, which was supposed to appear in the beliefs of all people. It was used to construct a kind of "natural" law behind the laws of various states. It appeared in theories about the rights of man in a state of nature, who to some thinkers was a man whose reason was coincident with universal reason. It is analogous to Kant's "transcendental unity of apperception" which became deified into the Absolute in the post-Kantians. And it is, of course, what gives plausibility to the political myth of popular sovereignty, for the words "common sense" seem to indicate a sense which resides in a community.

Thus Reid's appeal to the universal principles of reasoning was not without force in his day, when it was believed that the human mind could not be constructed so badly that it was bound to be wrong. He was the founder of a philosophical tradition which was not only powerful in his own country but which was used by Royer-Collard to combat eighteenth-century sensationalism in France. It numbered among its adherents a large and influential group of Scots, of whom Dugald Stewart, Thomas Brown, and Hamilton are the best known.

The development of Scottish realism was in the direction of Kantianism. Dugald Stewart (1753–1828) articulated common sense as those assumptions which the very exercise of our faculties involves, assumptions which we must make if we are to think at all and which we make unconsciously. Thomas Brown (1778–1820), who, like Reid, was stimulated by Hume, admitted that the human mind supplied the element of "necessity" in causal relations, reading it into the first instance we see of uniform succession. Sir William Hamilton (1788–1856) was still more Kantian. He denied, as did many a man before him, that we can ever know the substance of things, insisting that our knowledge is always of "qualities"; he emphasized the fact that knowledge is modified by our sense organs at least, so that what we know can never be the physical object as it is in itself; yet we are not aware merely of "states of mind," for in all knowledge the distinction between the knower and the known is clear and definite: it is immediately certain that we perceive something not ourselves. But this, after all, is a distinction made within consciousness itself; and what evidence have we except "common belief" that the object term in perception is in any way independent of our minds? It may be, as in Fichte, the result of the Ego's habit of self-objectification.

The social importance of Scottish realism showed itself in Scottish Whiggism. Relying on common sense, man's intuitive feeling for right and wrong, it stimulated the public to reject as vain and foolish all attempts at educational reform and theoretical acuteness. The cultivation of intelligence, the pursuit of the contemplative life, seemed silly to its protagonists. Inevitably what they interpreted as man's natural feelings were their own natural feelings, and common notions of right and wrong were the parochial notions of Edinburgh. That they could have ordered John Keats back to his mortar and pestle is not surprising. A man who proclaimed that the whole sum of man's knowledge was the identification of beauty and truth was obviously a victim of "enthusiasm." The British temper has always been impatient with the mind; the greatest gift of the British to philosophy has been empiricism. Any tradition which raised the mind to a position of eminence in life was bound to meet with their contempt and prove a recessive strain in their national culture.

Anti-mentalism appears once more in the utilitarians. Like the ideologists in France, they were sensationalists in their philosophy and democratic in their politics. Like them, too, their major interest was ethics, and they hoped by a study of human knowledge to discover a satisfactory way of life. They also share the ideological faith in analysis and atomism. Get down to the elements which compose a thing and you will have understood it, they seem to say.

Utilitarianism as an ethics goes back at least to John Gay (not the poet) who in the early part of the eighteenth century maintained that benevolence could be justified by the happiness it brought the benevolent. But the first outstanding figure in the movement is Jeremy Bentham (1748–1832). Bentham's interest in ethics was that of an Helvétius: he desired to make men happier and saw no importance in purely speculative research. He also felt that man's happiness was procurable by legislative means and saw no reason why legislation should not be devised to procure it.

As in the Encyclopædists, so in Bentham, pleasure and pain are the only two springs of action. The former is good, the latter evil. Hence man should seek pleasure and avoid pain as a matter of morality. But though pleasure and pain are individual, egoistic phenomena, yet one feels pleasure at another's pleasure and pain at another's pain. The legislator ought to realize this (what does "ought" mean here?) and make laws which will insure the happiness of mankind. The "greatest good of the greatest number" should be his one preoccupation. It stands as a guide to the individual and to the state.

It is obvious that there is no logical step between my happiness and that of everyone, that two happy people are no happier individually than one happy person, so that the happiness of all is no index of the increased happiness of each. It is obvious also that psychologically another's happiness may be indifferent or even painful to me. In fact, to pick flaws in utilitarianism is one of the easiest logical sports; and the theory is looked upon as a disreputable relative by most philosophers. Yet in spite of its blemishes and apparent lack of profundity, it has always appealed to "the plain man" as a doctrine full of common sense, if not self-evident. It made no pretensions to spiritual loftiness; it preached what all middle-class Englishmen instinctively believed, that to live and let live was the greatest of virtues. It allied itself with the democratic movement by atomizing the ethical community, as democracy had atomized the political. According to its teachings, each man was the center of goodness and evil as he was of political authority; and the sacrifice he was asked to make of his individual pleasure for the common pleasure was supposed to redound to his advantage, just as the sacrifice of his sovereignty was supposed to secure his greater protection. He was under the obligation of obeying the law—as in Hobbes—but no longer for the legalistic reason that he had deputed his sovereignty to the king but for the common-sense reason that he would be happier in doing so.

The ethics of utilitarianism were bolstered by a psychology which was the English counterpart of ideology. This was the doctrine of associationism, of which James Mill (1773-1836) may be considered the father. Associationism was psychological atomism; the contents of the mind were reduced to atomic sensations out of which, by the laws of the association of ideas, compounds were formed. It is now common knowledge that all our ideas come from sensation and that we can no more imagine anything whose simple parts are not derived from what we see, hear, smell, and so forth, than we can live backward in time. This was known at least as early as Aristotle; but what was not known was the manner in which the elements were combined and why our ideas should seem to have properties which are not in their elements. It is all very well to say that a chimæra is nothing but an enlarged goat with a lion's head, a serpent's tail, and fire breathing nostrils. But why should these elements be so combined and why should the combination be so much more frightful than the elements? We are not afraid of goats, lions' heads, serpents' tails, nor fire. But the combination, as seen in dreams or imagined in literature, sets our hair on end. Before the time of Lavoisier, more than any one man responsible for analytic chemistry, the phenomenon of compounds' having properties which were not in their elements was a mystery. By rendering it familiar, analytic chemistry did not explain it but robbed it of its mystery. The associationists proceeded to analyze all our ideas (in the ideological manner) and once more brought back psychology to the course upon which Locke had set it.

Relations, class concepts (universals), memory, belief, the special aids of English Platonism were explained by James Mill in a similar manner. We have no sense organs appropriate to relations, as Henry More had pointed out; but James Mill insisted that the sensing of two things in relation would account for our idea of relation. Universals are but names: they are given to similar experiences; we need but a perception of the similars for the abstraction of their similarity to arise. All this was to proceed automatically, with no aid from anything called a "mind." Thus philosophies in which there lingered a remnant of the Hellenic-Christian soul were believed to have the ground cut from under them.

Such philosophies were, of course, more inclined to the support of religion than anti-animistic philosophies and, with the exception of English Platonism (which was Roundhead and not Cavalier), were in favor of the political *status quo*. Ideology and associationism were politically radical; German idealism was conservative. There is no doubt in the present writer's mind that political interest definitely oriented philosophy at this time. For political conservatism found its greatest ally in the established religions; and the forces which make for civic discipline and obedience knew that they could count on the Church—be it Roman, Anglican, or Lutheran—for support. There was nothing more than St. Paul's adjunct to obey even a bad ruler if God gave him to one which logically could have brought about this alliance, and I am not contending that Christianity or a belief in the soul is inherently monarchistic. The alliance, on the contrary, was due to historical accident, probably arising in Constantine's adopting Christianity as the official religion of the Roman Empire. But whatever the reason, there the alliance stood; and, curiously enough, the drive toward democracy has been accompanied by a drive toward materialsm. The hatred of the mind which is so characteristic of modern times is symptomatic of this attitude. Thus there is still prevalent in America the idea that one cannot be a good democrat and think.

James Mill's theory was extended by his son, John Stuart Mill (1806–1873). The same individualism which was prominent in his father and in Bentham came out in him. But whereas the preceding generation had advocated a policy of *laissez faire,* John Stuart Mill came to temper that doctrine, for he had made a tacit admission that the mind was not an impassive spectator of the course of events but was to some extent a participant in them. His admission was due to the belief that if the mind were passive, man's fortunes were at the mercy of general mechanical laws and that all the efforts of humanitarians to improve them were ineffectual. Mill had a feeling, too deep to be disregarded, that such was not the state of affairs. Indeed, the life of his father and of his father's friends would have been vain if it had been.

Hence the younger Mill attributed more power to the mind than his predecessors had been willing to grant. Politically he granted it freedom as a recognition of its right to expansion. His ideal was not the balanced symmetrical life of the classical Goethe, but the unrestrained adventurousness of the explorer—a life which was just the opposite of that which he actually lived. In economics he modified the older program of *laissez faire,* which was based on the supreme sovereignty of economic law, by ethical ideals of justice. In ethics he refused to allow the mind to be blown hither and yon by pleasure and pain, but urged the recognition of "higher" and "lower" pleasures.

But his departure from the associationist tradition was best seen in his logic, in which the human mind was pictured as constructing hypotheses from its observation of facts, not as having hypotheses thrust upon it. In the older logic—the logic of ideology as well as of associationism—general ideas automatically emerged from the experience of similar ideas or sensations. In John Stuart Mill the mind builds up its own hypotheses without the aid, as he thought, of general ideas. He even phrased for its use a famous set of inductive canons whereby it might proceed, and once more asserted the legitimacy—as against Hume and Comte—of "causal" explanation. To be sure, these canons were highly colored with the associationist dye and their author wavered between the attitude that they concerned "ideas" and the attitude that they concerned "things." But the metaphysics behind them was not so influential as the practical lesson they taught, *viz.,* that science can devise a technique in which the mind will be both impartial and yet active, will study "facts" and yet retain its rights as an organizer of the facts. Mill's predecessors in the empirical tradition had seemed to think it necessary to reduce the mind to impotency; those of the idealistic tradition, to elevate it to omnipotence.

But again we must not give the reader the impression that Mill was entirely conscious of where he stood. He recognized the limitations of his father's point of view, yet he did not want to abandon it entirely. For it was to him the most satisfactory philosophy which had as yet been developed, and he had no intention of joining the idealists. Whether he saw the inconsistency between his associationist psychology (which led him to define "matter" as "the permanent possibility of sensations") and his canons of induction, between his basic hedonism and his theory of higher and lower pleasures, will never be known. It is probable that, excellent logician though he was, he was not aware of it, for even Descartes, who was a mathematician, had a theory of psychophysical interaction which violated its own fundamental premises.

Associationism was to develop as a psychological theory into what became in our own times analytic psychology, whose best-known American representative was E. B. Titchener of Cornell. Its history, which has also German roots, cannot be expounded here for lack of space. As a philosophy, its place was taken during the latter half of the nineteenth century by "naturalism," the main impetus for which came from biology, in particular from the relatively new theory of evolution. The naturalists, whom we shall discuss later, were, like the utilitarians, political radicals and humanitarians, for science still continued to furnish support to movements of the left wing.

Meanwhile a right-wing movement was taking its rise and, as usual, allying itself with spiritualism, idealism, and the Church. It appeared in two forms: first, in the Oxford

Movement, which corresponded to French Traditionalism; second, in a weak edition of English Platonism tinctured with German transcendentalism.

The Oxford Movement was a reaction against English individualism and a search for religious authority. There can be no doubt that the obedience exacted by the Church is not the life-crushing torture which Protestants sometimes describe. It must, on the contrary, satisfy a deeply felt need on the part of some people who find a greater happiness in submission (what St. Bonaventura called "humility") than in self-assertion. For it is hardly likely that fear or inertia could keep great masses of people following a given discipline for two thousand years. We must, on the contrary, recognize that human beings number among themselves saints as well as adventurers, ascetics as well as sensualists, for the two types appear before Christianity was dreamed of and in countries long before Christianity was imported into them.

The members of the Oxford Movement felt that there was no authority in the Anglican Church for the reason which is obvious to non-Anglicans, that it is a rebel against Rome, in which alone the apostolic tradition is unbroken. Protestants and free-thinkers might retort that truth has nothing to do with length of tradition, but that is clearly beside the point. For religious truth is not an affair of sensory observation to be tested with Bunsen burners and litmus paper. If it is anything at all, it is the beginning of a new way of life, and the followers of the way are the best judges of its topography. If it is held to have been laid out once and for all by God Himself some twenty centuries ago, it can scarcely be maintained that the original plans were variously revised in the sixteenth and seventeenth centuries by His vassals in England, Germany and Holland. Hence the feeling that in Rome alone is there religious authority is at the very least reasonable, and the Oxford Movement back to Rome must be given its due as arising from the powerful need of consistency.

But the belief in authority must be supported by a logic of its own, as Lamennais and the later Traditionalists tried to support it in France. That was provided by Cardinal Newman's *Grammar of Assent*. Of the whole movement, Newman (1801–1890) is to our contemporaries perhaps the most admirable proponent. For one feels that he had least to gain from it of a worldly nature, most to lose, actually suffered for it, and did most to make it acceptable to men of reason.

The Grammar of Assent is to English Traditionalism what Mill's *Logic* is to English associationism. Newman distinguishes in it two kinds of belief: belief in things or existences and belief in ideas. To the existence of things we give what he calls "real assent," whereas to the truth of ideas we give "notional assent." Thus the assent which we give to our belief in our own existence is much more forceful and compelling than that which we give to our belief in abstract justice. The former is complete, not a matter of more or less; we do not say, "We exist more or less" but "We exist." So with any of the objects whose existence makes up our life; we accept them whole-heartedly and unreservedly as we never accept that which is notional. Even the truths of mathematics depend upon certain premises and accuracy of reasoning, whereas the truths of everyday experience are self-substantiated and admit of no argument. Religious truths, Newman held, are of that nature. We feel them as we feel the truths of sensation, not because of elaborate deductions but immediately, unquestioningly, and with absolute certainty. The color-blind man can never be convinced of the difference between red and green, not because he cannot conceive them but because to him they can be only "notions," not existences. So the man without religious faith can conceive of God's existence but he can give no real assent to it.

The man to whom God is real no more needs arguments to bolster his faith than the man with normal vision needs arguments to convince him of the difference between red and green. In fact, reasoning can prove the existence of nothing, except what is implied in the already existing. So that in the long run, existence will always be testified to by knowledge which is non-logical. In a similar fashion and to a similar end the Abbé Bautain had argued that science and religion were alike in basing their conclusions on faith, but he had made the mistake of addressing his writings to Catholics, whereas Newman was a convert himself addressing Anglicans. Whereas Bautain was forced to retract, Newman—late in the day to be sure—was given the red hat.

What may be said in criticism of Newman's point of view, we shall leave to the reader to discover. He and his fellows were shrewd dialecticians, and their attacks upon the traditional empiricism of the English were by no means easy to answer. They gave the Church the advantage of carefully reasoned debate, whereas it had too often relied on eloquence. That it did not suffice to deflect English culture once more to Rome is not surprising. Such movements are doomed to failure at their birth. England's return to the Church could come about only after many years of slow and patient education applied in such a manner that she be not aware of it. An open movement was bound to revive the old battle cry of papacy.

Left-wing spiritualism made itself felt through the Lake poets. The Platonistic spirit had grown weaker during the latter years of the eighteenth century, though there were still men like Thomas Taylor (1758–1835) and, for that matter, William Blake, who kept up an interest in mystical pursuits. The spiritualism of this group—if group it can be called—was strengthened by Coleridge's reading of the German idealists. Coleridge (1772–1834) was no more systematic than Wordsworth or Carlyle; but he succeeded in arousing at least interest in the anti-materialistic movement.

These men, with their vague notions of a spiritual power in nature (the last vestiges of the *anima mundi*), of the differences between science and "life," were impelled by a sentimental dislike of associationism and materialism rather than by a reasoned philosophy of their own. They were effective as poets but had so weak a power of argument that a distinction like Coleridge's between "understanding" and "reason" is a whole metaphysics to them. Yet they do represent a thin stream which flows through English poetry of the nineteenth century, a tradition which includes the works of Emerson, Matthew Arnold, and Tennyson.

A more impressive spiritualism broke out in the middle of the century in the work of T. H. Green (1836–1882). The earlier poets had found their inspiration in Plato, Kant and Schelling. Green found his in Hegel, whose work had been introduced into England by Stirling's *The Secret of Hegel* (1865).

The great difference between Hegelian idealism and its predecessors is the greater technicality of its arguments. It is an idealism which is constructed out of an analysis of the reason and not based (at least ostensibly) upon foundations which are æsthetic or religious. The English

Hegelians had, of course, ethical preoccupations; and it is doubtful whether they would have abandoned the traditional empiricism of Great Britain, had they been able to deduce a sufficiently noble ethics from it. But their ethical preoccupations were not obvious from the start—as they were in Coleridge and Wordsworth—and T. H. Green, for instance, began his work with an attack upon empiricism which would have been interesting even if it had been put to entirely different use later on.

Green's objection to empiricism seems to be that of Reid,—namely, that it is bound to land one in scepticism. In the long run it will reduce the world to a series of discrete atomistic sensations of which there is neither cause nor subject. In such a world, knowledge as a coherent body of truth seems impossible, for there can be no coherence among sensations except the factitious coherence of a heap of stones; and there can be no world for the sensations to be true of. What we must do is to reject the very principle upon which empiricism rests and admit that knowledge is not the passive reception of blows from without, but the active synthesis of a knowing mind. If we see knowledge in the acts of knowledge, not in their terms, we shall be more aware of its essential nature. But an act of knowledge is not a simple *redness,* or *squareness,* or *hardness,* or what not, but the relating of these terms to one another in such wise that they form a unity for the mind at least.

Here again is struck the note of the English Platonists, that relations are a mental contribution to the world. But the note is now struck on German instruments. It is doubtful whether the English Hegelians had any idea of how ancient and homely a history this notion had had. On the contrary, they found it in Kant and looked upon it as one of his most important discoveries. The unifying power of the mind, they went on, is the great work of knowledge and is, indeed, the one thing which prevents the world falling in pieces. Only if the world is viewed as a system of knowledge will it have any unity, and since it must have unity, it must be a system of knowledge.

In fact, the desire for unity is more than any other one thing the underlying desire of the whole Hegelian movement. These men cannot conceive of a reality which is multiple. But the unity which they desire is not satisfied by the substantial unity of matter nor by the simplicity of natural law. For in such unities the mind is either left out or absorbed to the point of disappearance. Neither of these results will do for obvious reasons, and hence the unity of knowledge seems the only alternative.

If the categories of knowledge, space and time and, later, quantity, quality, relation and modality, are the mind's ways of organizing the world, they are subordinate to the mind and hence it floats above them. It is neither in space nor in time, is neither quantitative nor qualitative, caused nor determined. It transcends the categories as the artisan transcends his tools. But these categories are separating elements; they individuate. Things which were not separated in space or time would be the same thing; the selves above the categories fuse into one self which is the Absolute in which all differences disappear. The Absolute alone is real; all apparently individual selves are fragments of it. And since fragments are subordinated to that of which they are fragments, since their "significance" is to be part of something greater than themselves, the nature of individual selves is incomplete so long as they remain isolated from that of which they are parts. The task of the human being is therefore to realize his membership in a greater whole—the Absolute. He does this politically when he obeys the collective will; he does it ethically when he follows the universal laws of duty.

The development of the self into the Absolute is the keynote of English Hegelianism and is rather pathetic evidence of how these men, whose spirit was so alien to the dominant British tradition, strove to incorporate in their philosophy the British love of conformity. England has always had its nonconformists; and yet in no other country —at least so it seems to a foreigner—is there so great respect for the person who follows the habitual patterns of thought. The Englishman seems so completely absorbed into the national life that when he enters his country's service he substitutes her will for his own and spares nothing to realize her will. He compensates for this self-abnegation usually by preaching liberty, individualism, personal independence, though enforcing just the opposite from the nursery and the public school through the university and civil service. The English Hegelians, strongly individualistic as they were in their personal inclinations, preached an ethics in which the individual was but a disjointed member of a whole greater than himself, whose life he must try to lead.

It was clear that a clear and definite idea of that life could not be had by human beings. We can construct in our thoughts what kind of life it must be, but since it transcends all our categories we can give to our conception what Newman called "notional assent" and never "real assent." This fact was grasped by the most brilliant of the Hegelian group, F. H. Bradley (1846–1924), who as a master of English prose ought to live, even if his philosophy becomes of merely antiquarian interest. Few books in philosophy have ever been so beautifully constructed and nicely written as his *Appearance and Reality*. It may, indeed, have been his sensitiveness to the æsthetic values that led him to emphasize man's need of *feeling* reality and not merely thinking it. Thought, he maintained, always misses the qualitative aspect of reality, since it is under the obligation of expressing only what things have in common with other things. To see a rose is to experience something which no amount of thinking about the rose can revivify. It is exactly to experience its qualitative aspects and not merely those properties which make it a member of the class of roses. A blind man can talk about colors and understand how they arise and their general comportment. But the stupidest man with vision knows—inarticulately, to be sure, but no less "really"—colors in a way in which no blind man can ever know them.

We struggle to enter into that direct contact with reality which feeling gives us. And we find that the most important objects of knowledge can never be felt but must be thought. Moreover, if they could be felt, we should know them inadequately, for if their qualities should be revealed to us in feeling, their logical properties would then escape us. The dilemma which Bergson finds between instinct and intelligence existed for Bradley between feeling and thought. There are things, Bergson will be remembered to have said, which intelligence alone is able to seek, but which by itself it will never find. These things instinct alone could find, but it will never seek them. So for Bradley there are things which feeling alone could grasp, but grasping them it would never understand them; these things thought alone can understand but it will never grasp them.

Feeling, above all, is inadequate as a mode of comprehending the real, for the real, Bradley maintains in the good Hegelian manner, must be self-consistent and harmonious. But consistency and harmony and stability and the other Eleatic qualities can only be comprehended by an instrument which is itself Eleatic. Feeling, however, is the very essence of the Heraclitean. It is unstable, shifting, completely lacking in structure It comes in waves which rise and swell and subside. Colors succeed sounds and sounds succeed odors. They have no outlines or internal organization. Such, Bradley maintains, cannot be the nature of reality. Is there no way to reach the harmony which reality we know must show?

We have only the method of thought. But thought, as we have said, is inadequate in its own way. It uses categories which cannot apply to reality, and all the philosophical structures it has elaborated exhibit its shortcomings. Nevertheless, it is the one instrument we have and we shall continue to use it, for, at least, if it cannot tell what reality qualitatively is, it can convince us of what it is not. It can expose our inconsistencies in dealing with it, and we need never succumb to the temptation of believing in the false.

This somewhat disappointing outlook was mitigated by Bradley's contemporary, Bernard Bosanquet (1848–1923). He focused his energies upon constructing a system of philosophy which would overcome the shortcomings of the intellect. Convinced like all his school of the reality of the Whole alone, he tried to show that the world is a whole in which all lesser existences are necessary parts. It is the membership of parts in the whole which gives them value; and since all things are necessary to a complete Whole, even evil and ugliness must belong to the Absolute. We do, moreover, have a "feeling" (in Bradley's sense of the word) of the Whole, so that we are not cognitively estranged from it, since we know it in the experience of the beautiful. So Hegel had taught that beauty was a sensuous manifestation of the Absolute—though he never gave much evidence for this interesting opinion. The beautiful is an organization of fragmentary bits of reality in which discord plays its part. We feel not the discord but the harmony, the unity that emerges out of the variety; and such must be the complexion of the Absolute.

A philosophy of this sort led to resignation. It was not what Americans would call a "fighting philosophy," for it taught that things which we should like to exterminate were necessary, as Christians have taught that storms and pestilence were a necessary if inexplicable manifestation of divine goodness. Resignation is neither an unintelligent or useless philosophy to preach, but it is somehow or other antipathetic to the modern spirit. To be sure, our belligerency has not always produced the triumph which was its original hope, but we still believe in it, as indeed men must who are bound hand and foot to an economic system in which fighting is always vain. Such a belief is our one escape and therefore, though English Hegelianism is a more accurate picture of the life we lead than the philosophic creeds which win our favor, we continue to turn aside from it as if a recognition of its truth would be the acknowledgment of our defeat.

If English Hegelianism is a successor to the spiritualism of Coleridge and Wordsworth, "naturalism" is the successor to utilitarianism and associationism. By naturalism we mean the belief that philosophy must recognize the authority of science, must admit that its field is not simply a world of "phenomena" but that its truth is as "deep" as that of philosophy and its subject matter as "real."

Probably the revival of naturalism was due to the doctrine known as "evolution" more than to any other one thing. Evolution is not merely a biological doctrine but is a mode of explanation which can be applied to any field. The question it answers is, How did things become as they are? and obviously the "things" need not be organic species. They may be the solar system, human institutions, the chemical elements, anything whatsoever. There are always two answers to this question. First, things always were as they are, or have been so over a long period of time before which there was nothing. Second, things *became* as they are in accordance with a pattern which history illustrates, or in a helter-skelter formless series of changes. In general, the name "evolution" is given to an orderly change from simple to complex forms, as is seen in the development of the human embryo which starts as a fertilized egg and ends as a complex multicellular organism with organs whose structures and functions are highly specialized.

The evolutionary manner of viewing things was by no means new in the nineteenth century. Aside from its appearance among the earliest Greek colonial philosophers, it made its modern appearance as soon as change (and therefore time) was recognized as real. That took place in the late fifteenth century when, as we have shown, so many new facts about the world were known that men could not be persuaded that novelty was simply a regrouping in space of old materials. When men began to have a sense of history, as they did in the seventeenth century, they knew that civilizations grew. It began to seem unlikely that Abraham wore a periwig and that angels played on lutes. The discovery of the past was the discovery of the difference between ancient and modern civilizations, and the dogma of human uniformity was dealt its death blow. When to this was added the discovery that there were people at the antipodes living in a condition of simplicity innocent of any of the arts of civilization, the inference was seductive that they were not merely savages but primitive people, such as Lucretius had written of in *De Rerum Natura.* One's attitude toward the primitive people varied. If one was displeased with modern society, one spoke of them as Arcadian shepherds, living in close embrace with nature, Platonic children about whom the shades of the prison house had never closed. Memories of the Golden Age were revived, and one lamented man's degradation. But if, on the contrary, one were pleased by civilization, one called their innocence ignorance, their simplicity poverty, their *naïveté* stupidity. They were then simply the egg from which modern civilization was to grow, the wandering star dust which was to coagulate into a solar system. Since a number of the keenest minds were convinced that civilization was good, savages became primitive and not merely uncivilized, and the notion of social progress was launched on its long career.

This career was strengthened by the actual changes which were taking place in civilization. The rise of modern science and invention in the seventeenth and eighteenth centuries, the political effects of the French Revolution, the so-called Romantic Movement, inspiring a closer study of the past and a consequent revelation of how different it was from the present—these entailed changes which no one could deny. Comte's predecessors began to study these changes, to discover if possible a law in accordance with which they arose. One saw astrology yielding to astronomy, alchemy to chemistry. One saw despotism yielding to constitutionalism. One became impressed with the rise and fall of empires: one had an example before one's eyes in Spain. On all sides change was occurring, calling out for recognition; only the most stubborn Parmenideans could refuse to recognize it.

Above all, the new science of biology suggested evolution. The microscope in the eighteenth century had revealed a complexity of living forms hitherto unknown. Buffon's writings on natural history, as well as the works of Linnæus for that matter, had shown a puzzling similarity between the anatomies of various organisms. Lamarck became convinced, on good or bad grounds, that there were no fixed species, but that organic life as we now have it was a divergent series of a modified primitive stock. As early as 1773 Lord Monboddo had suggested the common origin of man and the apes. As early as 1794 Erasmus Darwin had formulated a general theory of the evolution of all forms of life. One could multiply *ad nauseam* these instances of the precursors of Charles Darwin. It is evident that by the middle of the nineteenth century the evolutionistic manner of explanation was common, at least among men of science.

There still remained the philosophic problem of how evolution worked. Was it guided by the hand of God; was it simply a mechanical interplay of mass and energy; was it purposive, making for some goal; was it creative and fanciful, exulting, so to speak, in diversity but otherwise undirected? Affirmative answers were given to all of these questions, and evolutionism became a name for a variety of mutually contradictory beliefs. We cannot, for lack of space, expound all the ramifications of evolutionism. It became the dominant credo of naturalists, particularly in Anglo-Saxon countries. Sometimes it is disguised as a form of pragmatism; sometimes it appears as religious optimism; it has its political expression in evolutionary socialism and its æsthetic in futurism. It has become so intimately a part of our lives that we have forgotten how recent a discovery it is.

The outstanding evolutionist of the nineteenth century in England was Herbert Spencer (1820–1903). Spencer was not a practicing scientist, but he had a gift of penetrating to the essential ideas in the various sciences and of grasping their interrelations. It was inevitable that such a talent should have its shortcomings. Science was changing so rapidly in the nineteenth century that almost any attempt to state its conclusions would turn out to be vain. Moreover, the essential ideas of a science, when stated in general terms, are the very parts which are not verified by observation and are most highly speculative. Therefore, the synthesis which Spencer hoped to make of the sciences was bound to be a synthesis of the sciences as then existing and of their least scientific elements. That gave his results at once their air of philosophic superficiality and their popular charm.

Spencer elaborated a formula which has become a classic definition of mechanistic evolution. Evolution, he maintained, was (1) a continuous change from (2) indefinite, incoherent homogeneity to (3) definite, coherent heterogeneity, of (4) structure and function, through (5) successive differentiations and integrations. Its continuity was a denial of gaps or saltations; it must proceed in an unceasing stream. Its stuff and structure were originally all of a piece like a lump of lead, relatively without organization. This steadily broke up, its lack of homogeneity becoming compensated by a gain in organization. Like the world in Empedocles, it was cyclical—now governed by Love, now by Hate. But Spencer's inherent optimism was so great that he corrected the cyclical pattern by maintaining that disintegration was never complete, so that the path of evolution was spiral rather than circular. The world in its progress never lost all its gains. There was no real proof of this, nor was any possible, since Spencer believed the differentiations and integrations to be fundamentally spatial rearrangements of material particles. What sense was there in talking about one grouping of atoms being "higher" or "lower" than another?

If one asked the question of why matter proceeded in this way, one faced a blank wall. Spencer did not know and maintained that no one could know. Comte also had denied the possibility of piercing the veil of phenomena but gave as his reason that there was nothing behind it and hence it was not a veil. Spencer, on the other hand, with good Anglo-Saxon regard for substance, maintained that there was something behind it but that the something was an Unknowable. For knowledge was both relative and conditioned by our experience and hence that which made experience possible could never be known. It was too basic. There are always unknowables in every science. There are certain facts which must be accepted as such and left unexplained. One cannot explain why falling bodies should increase their velocity thirty-two rather than thirty-three or thirty-one feet per second, or why red should be at the left of the spectrum and violet at the right. But Spencer seemed to speak of "the Unknowable" as if it were deserving of religious adoration, the Absolute of the Idealists.

The application of the evolutionary formula to the subject matters of the special sciences was the life work of Spencer. His influence was to make men treat living organisms, the mind, society, and human conduct as processes rather than "things," to deal with them genetically. Thus he derived the human mind from nervous "shocks," society from the undifferentiated hordes wandering over the face of the earth, moral conduct from self-preservation. Each of these was an organism like the human body itself, and though Spencer was not always consistent in treating them as organisms, nevertheless he impelled his successors to do so until nowadays it has become second nature.

This evolutionary point of view led Spencer to envisage innate ideas as acquired mental characteristics, the experience of the race, a notion curiously enough in the Vicomte de Bonald. It led him to giving over social reform to the very process of evolution, as if Evolution (with a capital E) were a kind of god looking out for human welfare. In ethics it led him to elaborate a scheme of judging conduct which considered it as conditioned by physics, biology, psychology, and sociology, and not—in the German manner—as essentially beyond this material world. Physically, said Spencer, our acts are matter in motion and can be judged as efficient or inefficient. Are they mechanically good, regardless of other things; do they consume more fuel than they should; are they wasteful? Biologically they are purposive and can be judged as means adapted to a given end. Do they perform their biological task fittingly or are they biologically harmful? But man is not only matter in motion, nor even living matter in motion; he is also sentient. Hence a new criterion of goodness enters, the psychological. Are our acts pleasant or painful? Finally, man is a sentient being living in society—a larger organism—which has its own aims. Are our acts in harmony with the purposes of society? Do they fit us for life in association with others?

The main test of goodness for Spencer is agreeableness; and on the whole he inclines to believe that a due regard for the physical, biological, psychological, and sociological ends will make life more agreeable, though at times he writes as if certain of them were ends in themselves, regardless of the pleasure or pain their realization may entail. Moreover, in spite of his inclusion of the sociological criterion, in spite of his theory that society is an organism of which the individuals are the cells, he never forgets that the final test of goodness is the individual and not society. He could not, like the Hegelians, maintain that society could be well off while individuals were unhappy. On the contrary, society in his eyes has developed for the welfare of its members. Its power over the individual is strictly limited. The state should be reduced to the police power; it is the specialized function of the prevention of evil. "Evil" in this sentence, one presumes, ought to mean "individual happiness," but it is clear that the exercise of the police power is bound to nullify the happiness of some people while it protects that of some others. The principle of choice is not hedonistic; it could not be. As a matter of fact, the actual exercise of police power against certain people is entirely a matter of historical development, a function of the kind of life the society to which it belongs has lived in years past. It has nothing to do with ethical speculation and probably arises from the personal desires of the dominant class or individuals tempered by religious scruples. That is, of course, what any reasonable ethics is, too. We know before we begin where we want to come out and that knowledge constantly corrects and guides our inferences. What wonder, then, that Spencer, in his famous admission that the doctrine of Evolution was not the aid that he had hoped, went on to say, "Most of the conclusions, drawn empirically, are such as right feelings, enlightened by cultivated intelligence, have already sufficed to establish."

The popularity of evolutionism as a philosophy was in large measure due to Spencer and to its enthusiastic champion, Huxley. Spencer assumed a pontifical air as a *chef d'école* which lasted well into the twentieth century. He was never a popular writer, for his style was heavy and dull, but he was an extremely popular thinker. People rejoiced to find "right feelings, enlightened by cultivated intelligence" expressed in such ponderous language. It gave them an importance which in nakedness they would not have enjoyed. Spencerianism seemed to be harmonious with science (*i.e.,* based on "facts"), to justify the current Anglo-Saxon prejudices in favor of hedonism and against the mind, in favor of individualism and against the state, in favor of Traditionalism and against innovation, in favor of progress and against reform. It was a perfect articulation of the middle-class Englishman's aspirations; all it needed was a High Church atmosphere—such as the later Comte could have given it—to make it a success in all classes of society.

Behind Spencerian science lay the Unknowable. Into its arcanum no foot must tread, no eye must peer. One must suspend judgment about it; one must cheerfully admit one's ignorance. This attitude of agnosticism was very difficult to adopt, but it too gained a certain popularity.

Huxley (1825–1895) became adept at it. He took the position that so many others have taken, the position made famous by La Fontaine's fox before the grapes, that it was not worth knowing about anyway. He maintained that empirical—by which he meant "scientific"—knowledge was alone worth while, since it alone could guide our conduct and serve us practically. Knowledge which could not be experimentally tested was for him not knowledge at all and had no more value than daydreaming. This was an extremely useful attitude to take at a time when scientific progress was threatened both by religion and metaphysics. But to take it was not to live up to all its implications. For the very rules of conducting experiments, the laws of correct reasoning are not given empirically. We need them in order to test experience and to make it coherent. This does not mean that they are bestowed upon us by some supernatural agency, however, but simply that a person who never advanced beyond experience would have no organized body of knowledge at all.

Huxley popularized the word "agnosticism" and prided himself, as most of the rationalists of the eighteenth century had before him, on not inquiring into matters which man's mind was unfitted to know. Yet he insisted that for practical purposes a certain stand upon metaphysical questions must be taken. We can never know, for instance, whether mind is a product of matter or matter a product of mind; but for practical purposes we must act as if the former were true. We must, that is, for practical purposes be materialists. But who hearing this can resist asking the question why materialism—if no truer than spiritualism—should be of more practical aid to us, and why practice should count for so much in determining our beliefs? That is, of course, a metaphysical question which touches on what an agnostic would call "the ultimate nature of things" and is hence illegitimate. But the question persists in putting itself and one begins to suspect that only meaningless questions are illegitimate and that this one is not (at least obviously) meaningless.

To base philosophy on science, to accept materialism as at least a working hypothesis won favor in England. "Nature" now became interpreted not as the expression of a world soul, as it had in the Lake poets, but as an equally beautiful but more mechanical order. The reign of natural law became an awe-inspiring subject of meditation. That everything in the universe was controlled by the simple laws of mechanics seemed so wonderful that few stopped to think of whether it was a fact or not. Daily science was exploring new fields and they all seemed to be best described in mechanistic terms. Some men were downcast at this state of affairs, for to them it seemed to degrade man to the level of falling stones and oxidizing metals. Others were elevated by it; it seemed to them a vision as sublime and grandiose as thunderstorms and dark mountain ranges. The poets reflected its somber beauty, though usually in verses of dubious consistency. In general, it became as fertile a source of religious emotion as the spiritualism which had preceded it. One simply showed, as Tyndall did, that if matter can produce poets and other artists, then it is not "crass" but divine. And many of his contemporaries echoed the cry in a lyricism which was neither sober nor scientific.

The grand period of philosophic systems in English philosophy seemed to come to an end with Herbert Spencer. No other important attempt was made to construct a philosophic schematization of all knowledge. The idealists, who developed Hegelianism, had systems, it is true, but as they retained the Kantian suspicion of science, their systems were much less inclusive than Spencer's. Instead of great synthetic efforts, philosophers attempted to investigate special problems, some spending the major part of their energy on ethics, others on the theory of knowledge, others on the body-mind problem, others on æsthetics. It was not until our own day, in such works as Alexander's *Space, Time and Deity,* the various books by A. N. Whitehead which range from mathematics to religion, and the Gifford Lectures in general, that we have had a renaissance of what once was considered to be the main work of philosophy.

This specialization, however, resulted in two movements, one American—which will be discussed later—one English, which have changed the complexion of philosophy almost entirely. The English movement was initiated by an attack on Berkeleyan idealism led by Professor G. E. Moore (b. 1873) of Cambridge University, in an article called "The Refutation of Idealism" published in *Mind* in 1903. Mr. Moore's argument was based upon a denial of one of the commonly supposed facts of perception. It was supposed by Berkeley and by most British philosophers, except possibly the Scottish school, that our sensations are nothing but their data. That is, in sensing a color, the color—whether mental or physical—alone exists. The color and the sensation of it are identical. This fact, as I say, Mr. Moore denied, and insisted, with a persistency and power of distinction which were exciting and almost irresistible that on the contrary in sensing a color, two elements were involved, the color and what was called "an act of awareness." The color was as independent of the mind as the physical objects of common sense, and only the act of awareness was mental. This act was indescribable, but above all things it was a relation and—this was believed to be very important—a relation of such a nature that it modified its terms in no way whatsoever.

This of course could never be proved; but it was asserted so vigorously that it relieved the realistically minded among English philosophers and started them at once elaborating the argument. Out of it grew at least two important schools of realism, that represented by Mr. Bertrand Russell (b. 1872) and that represented by Mr. Samuel Alexander (b. 1859).

Mr. Russell began as a follower of Mr. Moore and brought to bear on the analysis of knowledge his mathematical and logical genius. Since the act of awareness could not be described, there was nothing left but to classify its objects. Now in the Lockean tradition the ideas which were our objects were the representatives of real physical objects whose existence was only known by inference. According to Mr. Moore, the colors and sounds were just as "objective" as Locke's world of primary qualities; and, furthermore, a number of other "objects" which no one (except Plato) had dreamed of objectifying were seen to have exactly the same status as colors and sounds. These were abstractions like "goodness" and "beauty." Mr. Moore showed to his own satisfaction that "goodness" was known in the same way as a color, that therefore it was indefinable —one cannot define "blue" or "red," one can merely point to them—and that therefore it was as independent of the mind as he had shown colors to be.

Mr. Russell as a mathematician was used to handling abstractions. He knew that they had stubborn ways of their own which the mind could not vary at will. One cannot decide to make the points on a circle's circumference vary in distance from the center because it pleases one; mathematical objects obey laws as rigorous as those of physical objects. Hence Mr. Russell had no great difficulty in making the world a complex of abstract qualities; to him it was no less real, no less "hard" than a world of mass and energy. It took him some time to reach this position and he was no doubt influenced by his American colleagues who were more nimble in leaping to it; but step by step he went on, until his more recent books have been largely attempts to reveal the logical relations which subsist between these abstract entities, colors, sounds, mathematical objects, and ideals, and thus make up our world. "Things" become the points at which our various "perspectives" intersect; so long as there is logical order to the world, it has all the stability which Mr. Russell requires of it.

Mr. Alexander also believes in the act of awareness, but he finds that its being is not merely inferential, for it is "enjoyed" (that is, we are conscious of it) as an act whenever it is in operation. To him, however, its occurrence in the world is a problem of much greater magnitude than it has been to Mr. Russell; and his Gifford Lectures, *Space, Time and Deity,* have presented an account of its appearance on earth and of the universe in which it has appeared. This is a problem which has often been neglected by our contemporaries. If the act of awareness is different in kind from its objects, how did it arise? Was it created by them; did it create them; has it always existed along with them? Mr. Alexander's answer utilizes what has now become the popular doctrine of "emergent evolution." This doctrine (which has many varieties) points out that often when certain things are combined, something emerges out of them which was not in either of them separately. Thus when blue and yellow pigments are mixed together, the mixture is neither blue nor yellow but green. Similarly, when hydrogen is burned in oxygen the result is water. But water has properties which were not in either the oxygen or the hydrogen. They are gases; one is inflammable, the other aids combustion; one is the lightest element known, the other only sixteen times as heavy: water is a liquid, puts out fires, is heavy. One can multiply the differences between the properties of the product and of what went into it. Where did these new properties come from? They emerged out of the mixture in a way which can be predicted only because it has been seen so often. In itself it is inexplicable; it just happens.

The universe as a whole is in process of evolution. Space-time, the warp of events, gives birth to brute matter which gives birth to matter of varying degrees of complexity, among which are living bodies. From these emerge minds, different from bodies yet never appearing without them. It is Mr. Alexander's belief that minds will in turn give rise to new emergents which in time will be God. The emergence of God is the culmination of evolution. Renan, it is worth pointing out, also believed in God as a possible fruit of the evolutionary process but, with a scepticism characteristic of a Frenchman, was not so sure that God would emerge.

English and Scottish philosophy at the present time is very rich. There are a variety of schools—both realistic an idealistic. It would be a fairly simple matter to list the names of the better known among them with a brief word about the peculiarity of each. But such information can be gained from a dozen different books, some of which are listed in the bibliography to this chapter, and we must not let this picture of the major traditions of philosophy become an inventory of names and dates.

Chapter XI

AMERICA

It might be suspected that colonial America did not lend itself to philosophical speculation, yet so peculiar was the interest of the early settlers, at least those in New England, that problems bordering upon the realm of philosophy not only engaged their attention but harassed their lives. For they were a religious people of a dissenting sect, and the need of justifying their dissensions developed certain philosophic tenets which may seem remote today but were intimate and moving at the time. Divine grace, predestination, free will, may not seem important questions in 1929, but that is simply because we either refuse to accept the religion which stimulated their discussion or because we accept it so completely that no problem arises. Theological doubts nowadays are left to adolescents and rustics. In the seventeenth and eighteenth centuries, the American was not so sure of himself, and he persecuted the solution of such questions with vigor and delight.

This early period of theological philosophy was succeeded by an epoch of enlightened scepticism. If a man like Jonathan Edwards seems a symbol of the former, a man like Benjamin Franklin seems a symbol of the latter. Franklin, and indeed many of the "Fathers" of the United States, were tolerant of religious prejudices, were deists, if not more, ??! themselves. But they adopted an attitude which corresponded more with that of the Encyclopædists in France than with that of the English Platonists.

As the country grew older, the tolerant scepticism of the Franklins and Jeffersons gave way to a renewal of theology. This was no doubt due to the influence of the universities and colleges, most of which had the special mission of preparing clergymen for the ministry. The old urbanity died out and was replaced by a theological intolerance as hot as that of the Massachusetts elders. Yet outside the universities there grew up at least one group of philosophers whose mark upon American culture was not superficial. I refer to the Concord School.

The Concord School was a group of Neo-Platonists whose most picturesque member was Bronson Alcott (1799–1888) and whose most intelligent was Emerson (1803–1882). Alcott's philosophy was largely superstition about the relation of mind and matter which resembled the writings of Jamblichus rather than those of Plotinus. Matter was a degenerate form of mind, and material Nature the wickedness of souls made visible. There was little here that had not been said before by the great line of Neo-Platonists, but Alcott's importance was not so much due to what he said as to the fact that he said it. Like Thoreau (and Emerson, too, to a certain degree), he was in revolt against the accepted values of New England life; and though his reasons were absurd, his platform was a stimulation to independence of thought and action.

Emerson, by the greater normality of his conduct and the greater perfection of his literary gifts, was the real leader of the Concord School. He too preached conformity to one thing alone, oneself. These men were all depressed by the heavy claims of society and felt that the only escape from them was in abandoning them. The flight from society was an assertion of one's independence and gave one the chances of finding one's own code of morals and æsthetics. That such a discovery was possible was an assumption which little in human life justified. Yet so desperate was the cultural situation in America, that the assumption must either be accepted as a guide to action or man must give up the struggle for enlightment. We shall see the same thing later in Italy.

The Neo-Platonic tradition, especially as it appeared in Schelling, was eminently fitted to justify it. For the human self, according to that tradition, was but an aspect of the Absolute Self whose perceptions were the world. This made Nature of secondary importance and "Spirit" of primary. Hence the institutions of the individual, even when unguided by scientific research or by the discipline of tradition, were of supreme value in determining the course of his life. For in the last analysis they were the ideas of God. The Concord School was convinced that its members were the eyes of God, whose vision was obscured only by the possession of bodies. By disdaining the body and by eating foods which seemed (absurdly enough) less gross and material than the usual diet of carnivorous man, one was able to clarify this vision. As the members of the group were economically fitted for an ascetic life, their vision was seldom impaired by rich foods and drinks, and most of them attacked the problems of the universe as if they were themselves the Oversoul.

The greatest and most lasting effect of the Concord School was upon education. If truth is attained only by sudden flashes of insight, there is little sense in drilling students in a prescribed course of study. But education in the middle nineteenth century was not very different from the Trivium and Quadrivium of Martianus Capella. Emerson's satirical epigrams were of great influence in arousing a spirit of contempt for this narrow course of training, in bringing people to see that education must be judged by what it does for the student and that the student must not be judged by how well he fits into a prescribed course of study. He saw that the manual arts, for instance, were as important an acquisition as writing, even though there was little likelihood of the students of his day becoming cobblers and blacksmiths. This idea, when developed by President Eliot of Emerson's own *alma mater,* became the source of a great educational reform in America. Known as the elective system, it was supposed to determine a man's studies by the man's personality and thus to free the human ego from the trammels of empty formulas. The student thus freed was supposed to see with his own eyes, which were the eyes of God, and to realize unhindered the eternal values.

As a matter of cruel fact, the result was that every whim and fancy became an expression of the student's deepest soul. Not only was a lot of useless baggage dropped overboard, but also a lot of the most precious. The number of students who were sufficiently in harmony with the Oversoul to know what they needed was very small, but all students thought that they knew. Hence the curricula of American colleges and, later, of high schools became a strange jumble of everything that could possibly be taught. The sad example of the colleges did not dismay the educators, however, and the superstition that one's desires must all be satisfied at any cost led to a revision of the elementary curriculum as well. It was not long before children were being taught what they wanted to learn and only that, although some teachers were known slyly to induce a desire in their pupils' breasts by the well-known American method of skillful advertising.

But still philosophy in the colleges was largely theology. After the Civil War, James McCosh (1811–1894) had imported the teachings of Hamilton to Princeton, then called the College of New Jersey. He preached his master's arguments against sensationalism, which no one in America was worried about anyway, and succeeded in proselyting for the Scottish School in academic circles. Thus contact was lost with the vital problems of American life, and American philosophy became a purely intellectual sport.

Contemporary with the coming of McCosh to Princeton (1868), was the publication of William T. Harris's first book, *Hegel's First Principle* (1869) and the founding of his *Journal of Speculative Philosophy* two years before. Harris (1835–1909) was Commissioner of Education in Saint Louis, and was apparently in a position to stir up as much interest in Hegel as the Concord School had stirred up in Schelling. Harris's own views need not concern us here, and we shall make a jump to the most important of the American Hegelians, Josiah Royce (1855–1916). Royce, it should be said, was not a direct descendant of Harris but was a pupil of G. H. Howison (1834–1916), a pluralistic idealist, under whom he studied in California. Howison, whose own philosophy established no tradition, was not only a great teacher, but a great propagandist; and the influence of his propaganda is still to be seen in the University of California at which he taught, and in the publications of the Philosophical Union which he founded.

Royce based his philosophy upon a theory of the relation of our ideas to reality, which was a continuation of German voluntarism. Instead of maintaining that our ideas were copies of reality, he maintained that they were essentially purposes, or plans of action. We often speak of having an idea of how to solve a certain problem, in the sense of having a plan for solving it. Royce maintained that all of our ideas were of that nature. An idea of a house was not an image of a house but a plan of living in a certain manner. Ideas were therefore formulated by us.

The purposive aspect of ideas Royce called their "internal meaning." But a purpose demands fulfillment. No one makes plans—unless he is the most perverse of romanticists—which he does not hope to realize. But the fulfillment of an idea demands a world beyond the idea in which will be found its realization. If the plans of a house on paper represent the internal meaning of an idea, the completed house in bricks and mortar represents the idea's fulfillment, or what Royce called its "external meaning." This indicates that our purposes are incomplete without an external world in which they are realized, and that the external world is "meaningless" unless it is the fulfillment of some purpose.

That it was meaningless would have seemed absurd to Royce. He could not bring himself to face the possibility of the world's estrangement from man's desires. In that he was not alone, but was supported by the whole post-Kantian movement. The question, however, of whose purpose the world fulfilled, he did not avoid but answered it in the Hegelian manner, by making it the Absolute's. For it was easy enough to see that it often frustrated rather than fulfilled the individual's purposes.

But what was this Absolute?

The Absolute for the English Hegelians (as for Hegel) had been the whole in which all individual differences disappear. We are but fragments of that whole and in it we are unrecognizable. Hence we would not be we. How we are now ourselves and now not ourselves and always fragments of the Absolute who is always the same, the

English Hegelians did not explain. The very obscurity of their theory lent it a religious air which it would have been sacrilege to dissipate. Royce had been brought up in a school whose hatred of that kind of Absolute was intense. Howison insisted on preserving the plurality of individuals and on making the Absolute a kind of collection of persons, of which God (finite and thus one among others) was king. Royce preserved the Howisonian Absolute but asked the inevitable question, How can a collection entertain purposes whose fulfillment would produce a world?

The answer to this question he found in a psychological analysis of the individual. His association with the psychiatrist, Morton Prince, brought to his attention the fact ?? that personalities may be multiple thought resident in one body. This suggested the converse possibility of personalities being one thought resident in several bodies. A personality, he began to see, was an organization of activities about a central purpose. So long as we are torn in several directions, not knowing whither to go, so long are we not a personality at all but a set of random desires and appetites, exactly similar to a collection of discordant human beings. Our problem in life, he saw, was the harmonizing of our desires, their integration into what might properly be called a "self." That Hume, therefore, had not been able to find a self by introspection was no surprise to Royce. The self could not be a datum; it is an achievement. When, then, our self is attained by the integration of our purposes, we are each little Absolutes, of which the members are our purposes. The purposes of such selves can produce little worlds, for they have the stability and unity which a world demands. If, now, the various little Absolutes could be integrated, they too would form a larger self—which in Royce's later works he called the "beloved Community"—whose purposes would stabilize the world.

In Royce's earlier writings there is expressed the feeling that such a self does exist and is the Absolute; in his later, he seems to take the more realistic attitude that it too is to be achieved and is a problem, not a datum. This would mean, of course, that the world is only as unified and stable as the purposes which it fulfills are harmonious. It does not seem likely that Royce would have maintained that the world is not actually harmonious but may become so, for there was too much *eternalism* in him for that. In his youth he had proved to his own satisfaction that there must be an absolute truth and goodness to provide a standard and measure of our error and sinfulness. This standard was, of course, God. Which point of view he was inclined to hold as he grew older cannot be settled now. That there is a genuine conflict between them, however, cannot be doubted.

The voluntaristic interpretation of the word "idea" was not peculiar to Royce alone. It was also adopted by that miscellaneous group of philosophers known as "pragmatists."

To reduce the teachings of this group to unity is next to impossible. They enter pragmatism with such a variety of preconceptions and preoccupations that the community of agreement between all of them is very slight. This was to be expected. Pragmatism in the words of its greatest popularizer, William James (1842–1910), was a method of attacking philosophy and not a philosophy itself. As a method, however, it assumed certain things about knowledge which implied a voluntaristic theory of truth. The major assumption was that ideas, as in Royce, were "plans

Why not mention of C. S. Pierce?
(Because of his social unacceptability?

of action." Consequently they must be judged by the success with which they are realizable. An idea of a house is good, if the house which it leads to, or would lead to if followed, is a good house. We are supposed to know in advance the criteria of a good house; but it is maintained by John Dewey (b. 1859), who is now perhaps the most influential of the group, that goodness must always be fitness for some activity, presumably social. Social fitness would seem to be fitness for life in society, either society as it is or as it should be. But Dewey is by no means satisfied with society as it now exists, nor do his pragmatic principles permit him to dream of an ideal society in the Platonic manner for which man must be fitted. Instead of these alternatives, Dewey seems to see in "activity" itself a criterion of value, and is enough of a Fichtean to believe that only activity which leads to further activity is worth while. But just what activity is, he has never to my knowledge very clearly articulated. It apparently includes all the four Spencerian types, and more besides. But is one to maintain that there is no standard of good and bad activity, such as consistency in thinking or efficiency in labor? That is apparently the conclusion to be drawn, for Dewey would maintain that the value of consistency or efficiency is relative to the situation in which it occurs. Nor has he attempted to classify situations in order to see whether they have implicit within them certain standards rather than certain others.

[illegible]
fruitful
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James, on the other hand, had at times a very definite standard, that of cognitive immediacy. An idea was better than another idea when it led more directly to an immediate sensory datum. To him, concepts were substitutes for sensations, and none too desirable substitutes. Hence the ideal knowledge was a sensation, which to Dewey is not knowledge at all but something about which knowledge is entertained. In cases where sensations are not obtainable, the pragmatic test of "workability" was invoked. Thus, in religious discussions a belief was true when it "worked well," and it was a matter for the individual to decide whether or not it worked well. This seemed to imply the conclusion that certain propositions might be both true and false, depending on the taste of the person who entertained them. No pragmatist would recoil before such a conclusion, nor need anyone else; for it means simply that if certain criteria are accepted, the propositions are true; if others, false; and it does not imply that both sets of criteria are equally justifiable for all people on all occasions. Unfortunately pragmatists usually delight in the art of shocking the staider members of the community, and do not always trouble themselves to point out the innocence of their beliefs.

Pierce

The notion that ideas are plans of action goes back not only to the German voluntarists, but—as far as James was concerned—to Renouvier who, it may be recalled, maintained that every idea was both will and intellect. But neither in Germany nor in France did the doctrine achieve the amazing popularity that it has achieved in America. No philosopher, even Bergson, has ever had the influence of Mr. Dewey, who has for years dominated American educational theory, American political liberalism, and is even instrumental in molding a certain portion of æsthetic criticism.[1] His philosophy is the height of Heracliteanism; it recognizes the value of none of the Eleatic qualities. Is this not the very secret of his charm for Americans? Does he not tell them that the life they are forced to lead is the best life? And has not that always been the mission of the "successful" philosopher, to write the country's *apologia pro vita sua?*

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[1] Through the Barnes Foundation.

But if the greater number of American philosophers turned toward Heracliteanism, a considerable number still remained Eleatic. These include the Neo-Scholastics, who have naturally increased since 1876 and whose teachings have become official in the Catholic universities and seminaries, and a group which we shall with a certain license call naturalists. The history of American Neo-Scholasticism we must unfortunately omit. Naturalism breaks into two camps, that of the New Realists and that of the Critical Realists.

The logical, if not historical, predecessor of our contemporary naturalists was John Fiske (1842–1901), a disciple of Spencer. Fiske had very little of his own to add to Spencerian evolutionism except the clothing of the Unknowable in theistic garments; but he served to popularize the doctrine and to defend the notion that natural science need not be the enemy of religion. This, as a matter of fact, no one denied. The question was not whether religion in some sense of the word could be reconciled or even inferred from evolutionism but whether Christianity could be.

There was one conclusion that seemed to follow from evolutionism which caused a great deal of worry. That was that human consciousness is a product of the material world and hence does not enjoy the privileges which the idealistic tradition has seen fit to bestow upon it. The question involved another, as to how this substance, so different from its apparent source, could be derived from it, a question whose stimulus is the causal postulate which we saw in operation in the seventeenth century.

Of the critical realists, Mr. George Santayana (b. 1863) is the most Spencerian in matter if not in style. To him the mind is a product of matter and therefore less "real" than the matter from which it rises. It is utterly impotent to bring about any change whatsoever in the causal series of material events. This melancholy plight is mitigated, however, by its ability alone to penetrate to the world of values, which, inexistent though they are, are nevertheless the goal of our lives. Mr. Santayana's style consists in using what are usually depressing epithets in a purely descriptive way. Thus one finds that things may be inexistent and yet they not only make up the whole of our conscious life but also that for which we alone should strive. To be inexistent, then, simply means to be "non-material." After such a discovery, the philosopher's resignation to the comic spectacle of man swimming in an atmosphere of unreality becomes a bit too Byronic to be taken seriously.

On the other hand, Mr. Santayana has been almost unique in his insistence upon the necessity of making life rational. His conception of reason is too vague to be adequately and precisely expounded, but one reads Mr. Santayana (ironically enough) more for what he suggests than for what he denotes. "Reason," "clarity," "objectivity," are sufficiently precise to constitute a program, if not to construct a metaphysics. The greatest benefit which he has conferred upon the present generation of American philosophers, the generation of his pupils, is a respect for artistry and a scepticism about the value of current doctrines. He is essentially a Latin soul strayed into a Teutonic civilization, and his influence will probably be upon other strayed souls rather than upon men who are perfectly at home in America.

His confrères among the critical realists recognize the difficulties of the status of consciousness in his system. Some of them, like Messrs. Strong and Drake, have imagined the world to be of the same substance as mind throughout, a doctrine which goes back in England to W. K. Clifford (1845–1879) and in Germany to Fechner (1801–1887). According to this theory, what seems to us as matter is really mind-stuff "seen from without," as in Schopenhauer it was the will to live seen from without. Hence there is no substantial distinction between mind and brain; they are identical. Other critical realists, including Messrs. Sellars and Lovejoy, believe that the production of mind out of matter is not so much of a problem as a fact, and that the explanation of the fact consists in a statement of the conditions under which such an emergence takes place.

The second group of philosophers who take science seriously and not in the idealistic manner is the New Realists. This group was influenced both by William James and by the logic of Mr. Bertrand Russell. James, besides being a pragmatist, was what he called a radical empiricist. The metaphysics of radical empiricism consisted in maintaining that there were no substantial distinctions whatsoever in the universe, that there were merely an innumerable number of "neutral" beings, colors, sounds, and so on—the Humean stream of perceptions—and relations between them. When these neutral beings were related in one way, they formed minds; in another, matter. But a given neutral being could be in both the mental and the physical universe, since a single thing can sustain a number of relations at the same time.

This group, like Mr. G. E. Moore in England, was primarily interested in combating the idealistic argument for the subjectivity of all data. This argument one of their number, Mr. R. B. Perry, neatly termed the argument from "the ego-centric predicament." The ego-centric predicament is stated in Berkeley's words on page 211 of this book. It is, in brief, the impossibility of mentioning anything which is not an idea, for the mentioning of it makes it an idea. How, then, can we ever know that the non-ideal

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exists? We cannot. Since we ought not to believe in things of which we can know nothing, we ought not to believe in the existence of the non-ideal.

This predicament Mr. Perry admitted was real and not illusory, but he denied that it proved anything whatsoever about the ideality of all things. For all it asserts is, he maintained, that an idea is an idea, a redundancy from which nothing could be inferred. To say that all ideas are ideas does not prove that all things are ideas. Moreover, if the ego-centric predicament is supposed to be an inductive survey of reality, which says that all known things are ideas and that therefore all things must be (as one should say, all known white cats are deaf, therefore all cats are deaf), the argument should be checked by negative cases. In other words, one ought to collect the unknown things and see if they too are ideas. But this is obviously impossible, for to collect things is to know them.

> But the ego-centric predicament itself prevents the observation of negative cases. It is impossible to observe cases of unobserved things, even if there be any. In other words, there is a reason *connected with the conditions of observation* why only agreements should be observed. But where this is the case the method of agreement is worthless; and the use of it is a fallacy. Thus, I cannot conclude that English is the only intelligible form of speech simply because whomsoever I understand speaks English. On the contrary, my peculiar situation, as one acquainted only with a single language, is sufficient to discredit my results. If I should discover that I had been wearing blue glasses, I would at once discount the apparent blueness of everything that I had seen. And similarly, the general circumstance that in observing I am compelled to supply the very element whose real ubiquity or necessity I am attempting to discover, must itself be discounted or corrected, if I am to draw a true conclusion. In so far as the idealistic conclusion depends on that circumstance itself, it is fallacious.[1]

[1] Perry, *Present Philosophical Tendencies*, new impression, p. 131.

Having rid itself of the argument from the ego-centric predicament, the New Realism was faced with the problem of what the objects of knowledge were, if not ideas. Here James's radical empiricism came to the rescue. He concluded that they were neutral entities. One of the New Realists, Mr. E. B. Holt, maintained that they were equivalent to Platonic forms, of which consciousness was simply a cross-section selected by the nervous system. This theory eliminated the need of an "act of awareness" different from and illuminating the objects of awareness. But it introduced the problems of how a cross-section of universals could turn universals into particulars; of how time-less and space-less entities could ever give rise to time and space; of a world which included unreal, erroneous, illusory, and fictitious objects, as independent of "minds" as "real" physical objects had always been supposed to be.

The influence of pragmatism and the two brands of realism had done much to turn the philosophical mind toward science. Philosophers of the present generation, like those of Descartes's, are forced to learn something of mathematics and physics. But the mathematics and physics of today depict a world which is vastly different from that of Descartes, the world of relativity. The theory of relativity, or rather the theories of relativity, for Einstein's is only one of several, open up new possibilities for philosophy, as disturbing as those opened by Copernicus. Some of the results have already appeared in the work of S. Alexander and A. N. Whitehead (b. 1861), but not enough time has elapsed to show how decided a reorientation it will produce upon American thought.

One of the most interesting aspects of American philosophy is its almost complete detachment from the interests of [illegible] (European) arts, much on the other hand have been too delicate for the American politics.

American non-philosophical life. Except in the case of Mr. Dewey and some of his followers, no American philosopher has any influence to speak of upon American politics, American education, American art, or, for that matter, much interest in them. This is not entirely a bad thing, for it indicates that philosophy is becoming more and more of a special science with its own problems and its own technique. It is rather a comment upon American life that it does not guide itself by what Karl Marx would have called "ideologies," but prefers to remain unconscious of the philosophic aspect of its problems. This has been so, except during our great wars, ever since colonial times. In times of war, however, philosophers have been called upon to point out the battle of ideals which we have liked to imagine would sanctify our belligerency. But such expositions have been pitifully inadequate to the situation, for they have naturally not been made objectively and dispassionately but for purposes of edification and exhortation. We are not a critical people for the most part and could have absorbed nothing better.

American philosophy, always with the possible exception of the pragmatic schools, is not an indigenous product. The turning points in its history have always been made by the importation of foreign ideas. The Calvinists, the Deists, the post-Kantian Neo-Platonists, the Scottish realists, the evolutionists, the Hegelians, the Spencerians, and now the relativists, have each had a turn at pushing American thought in a new direction. This is true to some extent of the thought of all countries, for intellectual history is the result of the collision of various traditions. But in most countries there has been enough vigor to carry the new idea along and develop it, to adapt it to the special problems of the country, to see in it implications which were previously unsuspected. One reason for this is probably the conditions under which philosophy is practiced in this country. It is the exercise of professors, in the first place; and of professors who are paid to teach, in the second place; and of professors who are paid to teach a funded body of truth, in the third place. Only the genius can escape that chain of circumstances.

Where is this not the case?

Chapter XII

NINETEENTH-CENTURY ITALY

The detachment of American philosophers from their country's problems has not been shared by Continental philosophers. In Germany, from the time of Leibnitz to that of Hegel, philosophers were active participants in social and political discussions; in France, philosophers have engaged in politics, sometimes to the injury of their philosophy. So in Italy, the actual problems of society have occupied the philosophic mind much more than the purely theoretical problems of the school-room.

The outstanding Italian philosopher between Bruno and the nineteenth century is the Neapolitan, Giambattista Vico (*c.* 1668–1744). Vico, as his dates show, lived in the period between the great seventeenth-century rationalists and the Encyclopædists. This and his peculiar interests may account for the obscurity with which his fame has been enveloped.

The great work of his life was his *New Science,* which he composed in the first quarter of the eighteenth century. The new science had to do with the "common nature" of nations. The common nature of nations was what in Reid was called "common sense" and what at that time was utilized by various philosophers to justify "natural religion," "natural law," or any other set of principles which they believed incarnate in man's "nature" as opposed to what he had acquired by learning. That there is a common nature was revealed to Vico in the community of languages, institutions, and religions. This common nature, he maintained, had a history of its own which was expressed, needless to say, in the histories of the various peoples. It was realized, moreover, in spite of human beings, who seek the satisfaction of their selfish interests alone; and its realization is moving toward the actualization of justice. In other words, human history is progressing from bad to better, through no design on the part of its participants, but through the goodness of God.

In the realization of this progress, all peoples pass through three stages, the divine, the heroic, and the human. In the first stage, myths and gods are created and control human affairs; in the second, natural force and heroes are in the ascendancy; in the third, what Vico calls "civilization." But this movement is the life history of a nation, at the end of which comes death, unless the nation by conquest unites with a younger and more virile nation, unless it becomes reformed by a despot, or unless through anarchy and revolution it falls back into a "state of nature" which is a kind of rejuvenation and fresh start.

History was thus the growth of something concealed within the bodies politic, which it was easy for nineteenth-century philosophers to interpret as "the spirit." For Vico himself it was Providence. He was thus able to interpret human institutions as the expression of this inner spirit, just as Winckelmann, Lessing, Herder, as Hegel and the German idealists in general, as Ballanche in France did. This was of great influence on subsequent thought, for it prepared the way even for theories which were its opposite in intention, among them sociological positivism, which has liked to find laws inherent in society which would explain social changes in their entirety and reduce genius to their effect.

But Vico's immediate fame was not great, and Italy sank into a kind of philosophic lethargy which accepted servilely the teachings of foreign countries. The Scottish philosophy, Encyclopædism, ideology, had each its day. No important figure appeared until the nineteenth century.

In the early part of the century appeared Rosmini-Serbati (1797–1855) and his philosophical opponent, Gioberti (1801–1852). Both of these men were priests, and both, by a kind of dialectical analysis familiar to readers of the post-Kantians, tried to construct a philosophy which would be true to the teachings of the Church and still be in the current of philosophy. Rosmini's chief philosophical work was a study of what he called the origin of ideas. The two opposite types of theory, which he tried to demolish, are subjectivism (which he finds best exemplified in Kant) and the "empiricistic" (which he finds in Locke). The opposition between these two theories is obviously the neglect of the external world in one to the profit of the internal, and the neglect of the internal in the other to the profit of the external. It was easy to refute both of these theories by pointing out that neither guaranteed the possession of "ideas" in the Platonic sense, which beings must be "beyond" experience.

Such ideas, Rosmini held, were real and necessary for thought, yet they could neither be created by the mind, since they controlled it, nor discovered by the senses, since they are non-spatial and non-temporal. They must, nevertheless, exist in some mind, since they are not material things, and the only mind available is that of God. Thus in knowing the ideal, we are knowing the mind of God, and, since the ideal in which Rosmini was interested was that of ethics, goodness became for him the conformity of our conduct with God's nature. This meant that man's daily experience enveloped a core of spirituality which was as foreign to it and yet as necessary to it as the hidden "common nature" of mankind in Vico's account of history. How is this hidden core to be correlated with the actual world of daily experience?

Gioberti's philosophy gave the answer. To him, thought was not the contemplation or absorption of an idea but was actual creation. He employed in his proof of this a kind of dialectic which grew more and more prominent in Italy as the years went on. It is the drawing of "things" out of "processes." Thus the divine core of reality is a creative process which, on the one hand, crystallizes into thought—the design of creation; and, on the other, into things—the objects of creation. But things are nothing if not the objects of ideas, and ideas are nothing if not the archetypes of things. By thus fusing them into creative activity, Gioberti seemed to overcome the dualism inherent in Rosmini and the disquieting absorption of the individual in God which Rosmini's theory of knowledge seemed to imply.

At the same time it made of God a Schellingian burst of creative energy without reason or goodness to control it. This was, of course, a matter for congratulation to Gioberti himself, who was of a passionate, exuberant nature, a romanticist and a revolutionist. But it was no more pleasing to the Church than Rosmini's theory. Both men's works were put on the *Index*.

Meanwhile Italy turned, on the one hand, to positivism, as in the eighteenth century she had turned to sensationalism and, on the other, to various forms of Neo-Kantianism. Nothing of great interest emerged until Hegel entered the

Italian stream of consciousness through the work of Spaventa (1817–1883). His colleague, Augusto Vera (1813–1885), had already made orthodox Hegelianism known in Italy, but had added nothing to the Hegelian tradition of his own. Spaventa, on the contrary, laid emphasis upon the creativity of thought and interpreted the steps in Hegel's dialectical evolution as moments or phases of creation. Having a world of thought to begin with, he showed how the three basic categories of Hegel's logic (Being, Non-being, Becoming) are all interwoven in the very act of thinking.[1] For to think is to submerge oneself in the act of thinking and thus to lose one's identity in affirming it; but this act of thinking is also an *act,* not a *thing,* and hence is the union, as Hegel would have said, of being and non-being in becoming.

The delightful paradoxes of this dialectic were very fertile. By making an "activity" the fundamental reality, one seemed to brush aside logic of the Aristotelian sort which dealt with concepts, for a logic of intuition which could seize qualities as they sped by. One seemed also to exchange the world of physics for the world of history; growth took the place of mechanical impact. But since this fundamental activity was thought, it was not a process which took place in time, but an eternal process in which the past, present, and future were all equally present. This seems to the present writer as meaningless a phrase as the history of philosophy has to exhibit; but the Italians felt it to be heavily charged with meaning, and more and more tried to live the life of this activity which was creative thought.

This was all very well, but where was this creative thought exhibited? Do we ever find men engaged in this non-temporal creation? The first example to be brought forward was typical of a country with the æsthetic past of Italy. It was found by Francesco de Sanctis (1817–1883), whose *History of Italian Literature* is looked upon by certain Italians of the present day as a companion piece to the philosophical writings of Spaventa. Art differs from science, according to De Sanctis, because its object is individual, whereas the objects of science are universal: art describes this man, that landscape, this deed; science, mankind, landscapes in general, human interrelations. But art is not a copy of the individual; it is a recreation of the individual through the eyes of the artist. But the artist is essentially a spirit, and hence his work is essentially a recreation by the spirit. But why does the spirit produce works of art? What satisfaction does it find in this activity? The making of works of art is the individualizing of the spirit in sensuous form. Looking upon a work of art, the spirit sees itself objectively. Hence a history of any art would be the history of the individualizing of the spirit and, since all spirits melt into one in the Absolute, the history of a nation's art is the history of the individualizing of the nation's spirit. This makes great artists divine and beyond the contingencies of nature. They are mouthpieces for the divine spirit, for Vico's common nature.

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[1] His argument is reproduced conveniently for people who do not read Italian in Ruggiero's *Modern Philosophy,* p. 335.

It is easy to see that this lyrical philosophy can be applied to any of man's occupations. What is to prevent economics, jurisprudence, politics, from being equally expressions in one form or another of the Italian counterpart of Bergson's *élan vital?* Why limit the matter to art?

This possibility was seized upon by Benedetto Croce (b. 1866). Croce conceived his work to be the classifying of the various modes of spiritual expression. We find first two main interests of man, the theoretical and the practical. The theoretical has to do with our understanding of the world; the practical, with our manipulation of it. Theoretical knowledge is both intuitive and conceptual, the intuitive being the apprehension and expression of the concrete and the qualitative; the conceptual being the ratiocinative, the logical, the discursive. Needless to say, the intuitive is more highly estimated by Croce than the conceptual, for it more completely reproduces the lyric outburst of spiritual activity, whereas logical thought at best is a piecing together of static and abstract universals. Practical life also is divided in two on the same basis as theoretical. The direct handling of the flux of things is called by Croce "economics," and the thoughtful attainment of ends, "morality."

But having made these distinctions, Croce is careful to unmake them. Though theory has two opposite sides in intuition and conception, conception depends upon intuition. So economic activity is fumbling and groping without morals; morals, aimless without economic activity. They stand in relation of governor and governed, each dependent upon the other. Similarly, theory and practice as wholes are complementary. Theory is fulfilled in practice, made concrete and actual; practice is articulated in theory and made self-conscious. One can no more exist without the other than a science could exist without a subject matter.

To these phases of spiritual activity correspond æsthetics, logic, economics, and ethics. Each is interpreted lyrically, for even logic and ethics are the logic and ethics of a free and uncontrolled activity. Art becomes above all an expression of man's intuitions, so that the material manifestation of a work of art in stone or paint is secondary to the artist's intention, which in itself is a personal intuition of a certain reality. The only possible standard of criticism is the perfection with which the work of art expresses the intuition; but, as the intuition is already an expression, the work of the critics is largely concerned with identifying the intuition which is its nucleus and with reëxpressing it. Logic in its turn is in Croce's words the "science of the pure concept," but here again classifications of the Aristotelian type drop out and the Hegelian dialectic of thought takes their place. Thus Croce asks himself, What is implied in conception? not, What types of concepts have we? And he notes that conception implies the reverse of art: it brings to full consciousness the universal, not the individual; where art individualizes the universal, conception universalizes the individual. In this process conception performs a double task: it builds up science, which is a creation of categories for the stuff of reality and it builds up reality to be categorized.

Croce's fourfold division of spiritual activity, intertwined as its parts were, was yet too schematic in the opinion of some of his contemporaries. Accordingly, his colleague, Gentile (b. 1875), set about to melt together even these distinctions in a philosophy of the "act of thought as pure activity." Gentile stops at nothing short of an absolute process without beginning or end, without even ideal control. It is the completest expression of lyricism.

The lyric spirit has aspects but no stages. It affirms itself in art, its objects in religion, their union in philosophy. But as it is itself a synthesis of itself and its objects, there is no real subject, no real object: there is just the gush of "thought." Thus there is no such thing as art apart from religion, religion apart from art, philosophy apart from either. Gentile is emphatic in his denunciation of separateness.

It is clear that such philosophy can be criticized by none of the canons of logic or of observation. It is poetic, not scientific. But, once again, as one thinks over the last hundred years in Italy, how perfectly does it meet the needs of Italians. From the time of Mazzini to the present, Italians have been seeking cultural and political autonomy and unity, regardless of the ends such attainments might serve. The word "unity" to an Italian was a self-substantiated value. *Italia fa da se* struck this people who had never been really independent, not only as the expression of their hopes but of a fact. The lyric magnificence of a Mussolini, which seems like reckless bombast to a foreigner, finds a perfect apology in the headstrong creativity of Gentile's *atto del pensare,* which makes its own laws as it goes along and takes no heed of precedent or consequent. It is the latest incarnation of the Scotistic will.

Here in Italy we find the reversal of the classic spirit which was most perfectly expressed in Plato and Aristotle and dominated thought until the thirteenth century. At that time we saw the beginning of what we called "voluntarism" anticipated in the Sophists and the Latin Fathers, but never before made so clearly philosophical. Modern philosophy is the gradual spread of the voluntaristic attitude. Its course has been marked by ups and downs, but step by step we have seen it gain the upper hand, until now it is triumphant in pragmatism, in Bergsonism, in Italian idealism. Whether it is to have greater developments, whether there is to be a return to rationalism, whether it is to be superseded by some other form of doctrine, there is no telling at the present time. Historians who prophesy have been notoriously erroneous. It is hard enough to know the past even imperfectly. Why make futile attempts to envisage the future?

APPENDIX I

THE ANTINOMY OF PURE REASON[1]

FIRST CONFLICT OF THE TRANSCENDENTAL IDEAS

THESIS

The world has a beginning in time, and is limited also with regard to space.

PROOF

For if we assume that the world had no beginning in time, then an eternity must have elapsed up to every given point of time, and therefore an infinite series of successive states of things must have passed in the world. The infinity of a series, however, consists in this, that it never can be completed by means of a successive synthesis. Hence an infinite past series of worlds is impossible, and the beginning of the world a necessary condition of its existence. This was what had to be proved first.

With regard to the second, let us assume again the opposite. In that case the world would be given as an infinite whole of coexisting things. Now we cannot conceive in any way the extension of a quantum, which is not given within certain limits to every intuition,[2] except through the synthesis of its parts, nor the totality of such a quantum in any way, except through a completed synthesis, or by the repeated addition of unity to itself.[3] In order therefore to conceive the world, which fills all space, as a whole, the successive synthesis of the parts of an infinite world would have to be looked upon as completed; that is, an infinite time would have to be looked upon as elapsed, during the enumeration of all coexisting things. This is impossible. Hence an infinite aggregate of real things cannot be regarded as a given whole, nor, therefore, as given at the same time. Hence it follows that the world is not infinite, as regards extension in space, but enclosed in limits. This was the second that had to be proved.

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[1] Immanuel Kant, *Critique of Pure Reason,* translated into English by F. ~~Max~~ Müller, copyright 1907 by The Macmillan Co. By permission of the publishers.

[2] We may perceive an indefinite quantum as a whole, if it is included in limits, without having to build up its totality by means of measuring, that is, by the successive synthesis of its parts. The limits themselves determine its completeness, by cutting off everything beyond.

[3] The concept of totality is in this case nothing but the representation of the completed synthesis of its parts, because, as we cannot deduce the

ANTITHESIS

The world has no beginning and no limits in space, but is infinite, in respect both to time and space.

PROOF

For let us assume that it has a beginning. Then, as beginning is an existence which is preceded by a time in which the thing is not, it would follow that antecedently there was a time in which the world was not, that is, an empty time. In an empty time, however, it is impossible that anything should take its beginning, because of such a time no part possesses any condition as to existence rather than non-existence, which condition could distinguish that part from any other (whether produced by itself or through another cause). Hence, though many a series of things may take its beginning in the world, the world itself can have no beginning, and in reference to time past is infinite.

With regard to the second, let us assume again the opposite, namely, that the world is finite and limited in space. In that case the world would exist in an empty space without limits. We should therefore have not only a relation of things *in space,* but also of things *to space.* As, however, the world is an absolute whole, outside of which no object of intuition, and therefore no correlate of the world can be found, the relation of the world to empty space would be a relation to *no object.* Such a relation, and with it the limitation of the world by empty space, is nothing, and therefore the

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concept from the intuition of the whole (this being in this case impossible), we can conceive it only through the synthesis of its parts, up to the completion of the infinite, at least in the idea.

world is not limited with regard to space, that is, it is infinite in extension.[1]

OBSERVATIONS ON THE FIRST ANTINOMY

I

ON THE THESIS

In exhibiting these conflicting arguments I have not tried to avail myself of mere sophisms for the sake of what is called special pleading, which takes advantage of the want of caution of the opponent, and gladly allows his appeal to a misunderstood law, in order to establish his own illegitimate claims on its refutation. Every one of our proofs has been deduced from the nature of the case, and no advantage has been taken of the wrong conclusions of dogmatists on either side.

I might have apparently proved my thesis by putting forward, as is the habit of dogmatists, a wrong definition of the infinity of a given quantity. I might have said that the quantity is *infinite,* if no greater quantity (that is, greater than the number of given units contained in it) is possible. As no number is the greatest, because one or more units can always be added to it, I might have argued that an infinite given quantity, and therefore also an infinite world (infinite as regards both the past series of time and extension in space) is impossible, and therefore the world limited in space and time. I might have done this; but, in that case, my definition would not have agreed with the true concept of an infinite whole. We do not represent by it how large it is, and the concept of it is not therefore the concept of a *maximum,* but we conceive by it its relation only to any possible unit, in regard to which it is greater than any number. According as this unit is either greater or smaller, the infinite would be greater or smaller, while infinity, consisting in the relation only to this given unit, would always remain the same, although the absolute quantity of the whole would not be known by it. This, however, does not concern us at present.

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[1] Space is merely the form of external intuition (formal intuition) and not a real object that can be perceived by external intuition. Space, as prior to all things which determine it (fill or limit it), or rather which give an empirical intuition determined by its form, is, under the name of absolute space, nothing but a mere possibility of external phenomena, so far as they either exist already, or can be added to given phenomena. Empirical intuition, therefore, is not a compound of phenomena and of space (perception and empty intuition). The one is not a correlate of the other in a synthesis, but the two are only connected as matter and form in one and the same empirical intuition. If we try to separate one from the other, and to place space outside all phenomena, we arrive at a number of empty determinations of external intuition, which, however, can never be possible perceptions; for instance, motion or rest of the world in an infinite empty space, *i.e.*, a determination of the mutual relation of the two, which can never be perceived, and is therefore nothing but the predicate of a mere idea.

The true transcendental concept of infinity is, that the successive synthesis of units in measuring a quantum, can never be completed.[1] Hence it follows with perfect certainty, that an eternity of real and successive states cannot have elapsed up to any given (the present) moment, and that the world therefore must have a beginning.

With regard to the second part of the thesis, the difficulty of an endless and yet past series does not exist; for the manifold of a world, infinite in extension, is given at *one and the same time.* But, in order to conceive the totality of such a multitude of things, as we cannot appeal to those limits which in intuition produce that totality by themselves, we must render an account of our concept, which in our case cannot proceed from the whole to the determined multitude of the parts, but has to demonstrate the possibility of a whole by the successive synthesis of the parts. As such a synthesis would constitute a series that would never be completed, it is impossible to conceive a totality either before it, or through it. For the concept of totality itself is in this case the representation of a completed synthesis of parts, and such a completion, and therefore its concept also, is impossible.

II

ON THE ANTITHESIS

The proof of the infinity of the given series of world, and of the totality of the world, rests on this, that in the opposite case an empty time, and likewise an empty space, would form the limits of the world. Now I am quite aware that people have tried to escape from this conclusion by saying that a limit of the world, both in time and space, is quite possible, without our having to admit an absolute time before the beginning of the world or an absolute space outside the real world, which is impossible. I have nothing to say against the latter part of this opinion, held by the philosophers of the school of Leibnitz. Space is only the form of external intuition, and not a real object that could be perceived externally, nor is it a correlate of phenomena, but the form of phenomena themselves. Space, therefore, cannot exist absolutely (by itself) as something determining the existence of things, because it is no object, but only the form of possible objects. Things, therefore, as phenomenal, may indeed determine space, that is, impart reality to one or other of its predicates (quantity and relation); but space, on the other side, as something existing by itself, cannot determine the reality of things in regard to quantity or form, because it is nothing real in itself. Space, therefore, (whether full or empty)[1] may be limited by phenomena, but phenomena cannot be limited *by empty* space outside them. The same applies to time. But, granting all this, it cannot be denied that we should be driven to admit these two monsters, empty space outside, and empty time before the world, if we assumed the limit of the world, whether in space or time.

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[1] This quantum contains therefore a multitude (of given units) which is greater than any number; this is the mathematical concept of the infinite.

For as to the plea by which people try to escape from the conclusion, that if the world has limits in time or space, the infinite void would determine the existence of real things, so far as their dimensions are concerned, it is really no more than a covered attempt at putting some unknown *intelligible* world in the place of our *sensuous* world, and an existence in general, which *presupposes no other condition* in the world, in the place of a first beginning (an existence preceded by a time of non-existence), and *boundaries* of the universe in place of the limits of extension,—thus getting rid of time and space. But we have to deal here with the *mundus phænomenon* and its quantity, and we could not ignore the conditions of sensibility, without destroying its very essence. The world of sense, if it is limited, lies necessarily within the infinite void. If we ignore this, and with it, space in general, as an *a priori* condition of the possibility of phenomena, the whole world of sense vanishes, which alone forms the object of our enquiry. The *mundus intelligibilis* is nothing but the general concept of any world, which takes no account of any of the conditions of intuition, and which therefore admits of no synthetical proposition, whether affirmative or negative.

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[1] It is easily seen that what we wish to say is that empty space, so far as limited *by phenomena,* that is, space *within* the world, does not at least contradict transcendental principles, and may be admitted, therefore, so far as they are concerned, though by this its possibility is not asserted.

THE ANTINOMY OF PURE REASON

SECOND CONFLICT OF THE TRANSCENDENTAL IDEAS

THESIS

Every compound substance in the world consists of simple parts, and nothing exists anywhere but the simple, or what is composed of it.

PROOF

For let us assume that compound substances did not consist of simple parts; then, if all composition is removed in thought, there would be no compound part, and (as no simple parts are admitted) no simple part either, that is, there would remain nothing, and there would therefore be no substance at all. Either, therefore, it is impossible to remove all composition in thought, or, after its removal, there must remain something that exists without composition, that is, the simple. In the former case the compound could not itself consist of substances (because with them composition is only an accidental relation of substances, which substances, as permanent beings, must subsist without it). As this contradicts the supposition, there remains only the second view, namely, that the substantial compounds in the world consist of simple parts.

It follows as an immediate consequence that all the things in the world are simple beings, that their composition is only an external condition, and that, though we are unable to remove these elementary substances from their state of composition and isolate them, reason must conceive them as the first subjects of all composition, and therefore, antecedently to it, as simple beings.

ANTITHESIS

No compound thing in the world consists of simple parts and there exists nowhere in the world anything simple.

PROOF

Assume that a compound thing, a substance, consists of simple parts. Then as all external relation, and therefore all composition of substances also, is possible in space only, it follows that space must consist of as many parts as the parts of the compound that occupies the space. Space, however, does not consist of simple parts, but of spaces. Every part of a compound, therefore, must occupy a space. Now the absolutely primary parts of every compound are simple. It follows therefore that the simple occupies a space. But as everything real, which occupies a space, contains a manifold, the parts of which are by the side of each other, and which therefore is compounded, and, as a real compound, compounded not of accidents (for these could not exist by the side of each other, without a substance) but of substances, it would follow that the simple is a substantial compound, which is self-contradictory.

The second proposition of the antithesis, that there exists nowhere in the world anything simple, is not intended to mean more than that the existence of the absolutely simple cannot be proved from any experience or perception, whether external or internal, and that the absolutely simple is a mere idea, the objective reality of which can never be shown in any possible experience, so that in the explanation of phenomena it is without any application or object. For, if we assumed that an object of this transcendental idea might be found in experience, the empirical intuition of some one object would have to be such as to contain absolutely nothing manifold by the side of each other, and combined to a unity. But as, from our not being conscious of such a manifold, we cannot form any valid conclusion as to the entire impossibility of it in any objective intuition, and as without this no absolute simplicity can be established, it follows that such simplicity cannot be inferred from any perception whatsoever. As, therefore, an absolutely simple object can never be given in any possible experience, while the world of sense must be looked upon as the sum total of all possible experience, it follows that nothing simple exists in it.

This second part of the antithesis goes far beyond the first, which only banishes the simple from the intuition of the composite, while the second drives it out of the whole of nature. Hence we could not attempt to prove it out of the concept of any given object of external intuition (of the compound), but from its relation to a possible experience in general.

OBSERVATIONS ON THE SECOND ANTINOMY

I

ON THE THESIS

If I speak of a whole as necessarily consisting of separate parts, I understand by it a substantial whole only, as a real compound, that is, that contingent unity of the manifold, which, given as *separate* (at least in thought), is brought into a mutual connection, and thus constitutes one whole. We ought not to call space a compositum, but a totum, because in it its parts are possible only in the whole, and not the whole by its parts. It might therefore be called a *compositum ideale,* but not *reale*. But this is an unnecessary distinction. As space is no compound of substances, not even of real accidents, nothing remains of it, if I remove all composition in it, not even the point, for a point is possible only as the limit of a space, and therefore of a compound. Space and time do not therefore consist of simple parts. What belongs only to the condition of a substance, even though it possesses quantity (as, for instance, change), does not consist of the simple; that is to say, a certain degree of change does not arise through the accumulation of many simple changes. We can infer the simple from the compound in self-subsisting objects only. Accidents of a state, however, are not self-subsisting. The proof of the necessity of the simple, as the component parts of all that is substantially composite, can therefore easily be injured, if it is extended too far, and applied to all compounds without distinction, as has often been the case.

I am, however, speaking here of the simple only so far as it is necessarily given in the composite, which can be dissolved into the former, as its component parts. The true meaning of the word *Monas* (as used by Leibnitz) should refer to that simple only, which is given *immediately* as simple substance (for example, in self-consciousness), and not as an element of the composite, in which case it is better called an *Atomus*.[1] As I wish to prove the existence of simple substances, as the elements of the composite only, I might call the thesis of the second antinomy transcendental *Atomistic*. But as this word has long been used as the name of a particular explanation of material phenomena (*moleculæ*) and presupposes, therefore, empirical concepts, it will be better to call it the dialectic principle of *monadology*.

II

ON THE ANTITHESIS

Against the theory of the infinite divisibility of matter, the proof of which is mathematical only, objections have been raised by the Monadists, which become suspicious by their declining to admit the clearest mathematical proofs as founded on a true insight into the quality of space, so far as space is indeed the formal condition of the possibility of all matter, but treating them only as conclusions derived from abstract but arbitrary concepts, which ought not to be applied to real things. But how is it possible to conceive a different kind of intuition from that given in the original intuition of space, and how can its determinations *a priori* not apply to everything, since it becomes possible only by its filling that space? If we were to listen to them, we should have to admit, beside the mathematical point, which is simple, but no part, but only the limit of a space, other physical points, simple likewise, but possessing this privilege that, as parts of space, they are able, by mere aggregation, to fill space. Without repeating here the many clear refutations of this absurdity, it being quite futile to attempt to reason away by purely discursive concepts the evidence of mathematics, I only remark, that if philosophy in this case seems to play tricks with mathematics, it does so because it forgets that in this discussion we are concerned with *phenomena* only, and their conditions. Here, however, it is not enough to find for the pure *concept*, produced by the understanding, of the composite the concept of the simple, but we must find for the *intuition* of the composite (matter) the intuition of the simple; and this, according to the laws of sensibility, and therefore with reference to the objects of the senses, is totally impossible. Though it may be true, therefore, with regard to a whole, consisting of substances, which is conceived by the pure understanding only, that before its composition there must be the simple, this does not apply to the *totum substantiale phænomenon* which, as an empirical intuition in space, carries with it the necessary condition that no part of it is simple, because no part of space is simple. The Monadists, however, have been clever enough to try to escape from this difficulty, by not admitting space as a condition of the possibility of the objects of external intuition (bodies), but by presupposing these and the dynamical relation of substances in general as the condition of the possibility of space. But we have no concept of bodies, except as phenomena, and, as such, they presuppose space as the necessary condition of the possibility of all external phenomena. The argument of the Monadists, therefore, is futile, and has been sufficiently answered in the transcendental Æsthetic. If the bodies were things by themselves, then, and then only, the argument of the Monadists would be valid.

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[1] Rosenkranz thinks that *atomus* is here used intentionally by Kant as a *masculine*, to distinguish it from the *atomon*, translated by scholastic philosophers as *inseparable, indiscernible, simplex*, etc., while with the Greek philosophers *atomus* is feminine. Erdman, however, has shown that Kant has used *atomus* elsewhere also as masculine.

The second dialectical assertion possesses this peculiarity, that it is opposed by dogmatical assertion which, among all Sophistical assertions, is the only one which undertakes to prove palpably in an object of experience the reality of that which we counted before as belonging only to transcendental ideas, namely, the absolute simplicity of a substance,—I mean the assertion that the object of the internal sense, or the thinking I, is an absolutely simple substance. Without entering upon this question (as it has been fully discussed before), I only remark, that if something is conceived as an object only, without adding any synthetical determination of its intuition (and this is the case in the bare representation of the I), it would no doubt be impossible that anything manifold or composite could be perceived in such a representation. Besides, as the predicates through which I conceive this object are only intuitions of the internal sense, nothing can occur in them to prove a manifold (one by the side of another), and therefore a real composition. It follows, therefore, from the nature of self-consciousness that, as the thinking subject is at the same time its own object, it cannot divide itself (though it might divide its inherent determinations); for in regard to itself every object is absolute unity. Nevertheless, when this subject is looked upon externally, as an object of intuition, it would most likely exhibit some kind of composition as a phenomenon, and it must always be looked upon in this light, if we wish to know whether its manifold constituent elements are *by the side* of each other or not.

THE ANTINOMY OF PURE REASON

THIRD CONFLICT OF THE TRANSCENDENTAL IDEAS

THESIS

Causality, according to the laws of nature, is not the only causality from which all the phenomena of the world can be deduced. In order to account for these phenomena it is necessary also to admit another causality, that of freedom.

PROOF

Let us assume that there is no other causality but that according to the laws of nature. In that case everything that *takes place,* presupposes an anterior state, on which it follows inevitably according to a rule. But that anterior state must itself be something which has taken place (which has come to be in time, and did not exist before), because, if it had always existed, its effect too would not have only just arisen, but have existed always. The causality, therefore, of a cause, through which something takes place, is itself an *event,* which again, according to the law of nature, presupposes an anterior state and its causality, and this again an anterior state, and so on. If, therefore, everything takes place according to mere laws of nature, there will always be a secondary only, but never a primary beginning, and therefore no completeness of the series, on the side of successive causes. But the law of nature consists in this, that nothing takes place without a cause sufficiently determined *a priori.* Therefore the proposition, that all causality is possible according to the laws of nature only, contradicts itself, if taken in unlimited generality, and it is impossible, therefore, to admit that causality as the only one.

We must therefore admit another causality, through which something takes place, without its cause being further determined according to necessary laws by a preceding cause, that is, an *absolute spontaneity* of causes, by which a series of phenomena, proceeding according to natural laws, begins by itself; we must consequently admit transcendental freedom, without which, even in the course of nature, the series of phenomena on the side of causes, can never be perfect.

ANTITHESIS

There is no freedom, but everything in the world takes place entirely according to the laws of nature.

PROOF

If we admit that there is *freedom,* in the transcendental sense, as a particular kind of causality, according to which the events of the world could take place, that is, a faculty of absolutely originating a state, and with it a series of consequences, it would follow that not only a series would have its absolute beginning through this spontaneity, but the determination of that spontaneity itself to produce the series, that is, the causality, would have an absolute beginning, nothing preceding it by which this act is determined according to permanent laws. Every beginning of an act, however, presupposes a state in which the cause is not yet active, and a dynamically primary beginning of an act presupposes a state which has no causal connection with the preceding state of that cause, that is, in no wise follows from it. Transcendental freedom is therefore opposed to the law of causality, and represents such a connection of successive states of effective causes, that no unity of experience is possible with it. It is therefore an empty fiction of the mind, and not to be met with in any experience.

We have, therefore, nothing but *nature,* in which we must try to find the connection and order of cosmical events. Freedom (independence) from the laws of nature is no doubt a *deliverance* from restraint, but also from the *guidance* of all rules. For we cannot say that, instead of the laws of nature, laws of freedom may enter into the causality of the course of the world, because, if determined by laws, it would not be freedom, but nothing else but nature. Nature, therefore, and transcendental freedom differ from each other like legality and lawlessness. The former, no doubt, imposes upon the understanding the difficult task of looking higher and higher for the origin of events in the series of causes, because their causality is always conditioned. In return for this, however, it promises a complete and well-ordered unity of experience; while, on the other side, the fiction of freedom promises, no doubt, to the enquiring mind, rest in the chain of causes, leading him up to an unconditioned causality, which begins to act by itself, but which, as it is blind itself, tears the thread of rules by which alone a complete and coherent experience is possible.

OBSERVATIONS ON THE THIRD ANTINOMY

I

ON THE THESIS

The transcendental idea of freedom is far from forming the whole content of the psychological concept of that name, which is chiefly empirical, but only that of the absolute spontaneity of action, as the real ground of imputability; it is, however, the real stone of offence in the eyes of philosophy, which finds its unsurmountable difficulties in admitting this kind of unconditioned causality. That element in the question of the freedom of the will, which has always so much embarrassed speculative reason, is therefore in reality *transcendental only,* and refers merely to the question whether we must admit a faculty of *spontaneously* originating a series of successive things or states. How such a faculty is possible need not be answered, because, with regard to the causality, according to the laws of nature also, we must be satisfied to know *a priori* that such a causality has to be admitted, though we can in no wise understand the possibility how, through one existence, the existence of another is given, but must for that purpose appeal to experience alone. The necessity of a first beginning of a series of phenomena from freedom has been proved so far only as it is necessary in order to comprehend an origin of the world, while all successive states may be regarded as a result in succession according to mere laws of nature. But as thus the faculty of originating a series in time by itself has been proved, though by no means understood, it is now permitted also to admit, within the course of the world, different series, beginning by themselves, with regard to their causality, and to attribute to their substances a faculty of acting with freedom. But we must not allow ourselves to be troubled by a misapprehension, namely, that, as every successive series in the world can have only a relatively primary beginning, some other state of things always preceding in the world, therefore no absolutely primary beginning of different series is possible in the course of the world. For we are speaking here of the absolutely first beginning, not according to time, but according to causality. If, for instance, at this moment I rise from my chair with perfect freedom, without the necessary determining influence of natural causes, a new series has its absolute beginning in this event, with all its natural consequences *ad infinitum,* although, with regard to time, this event is only the continuation of a preceding series. For this determination and this act do not belong to the succession of merely natural effects, nor are they a mere continuation of them, but the determining natural causes completely stop before it, so far as this event is concerned, which no doubt follows them, and does not *result* from them, and may therefore be called an absolutely first beginning in a series of phenomena, not with reference to time, but with reference to causality.

This requirement of reason to appeal in the series of natural causes to a first and free beginning is fully confirmed if we see that, with the exception of the Epicurean school, all philosophers of antiquity have felt themselves obliged to admit, for the sake of explaining all cosmical movements, a *prime mover,* that is, a freely acting cause which, first and by itself, started this series of states. They did not attempt to make a first beginning comprehensible by an appeal to nature only.

II

ON THE ANTITHESIS

He who stands up for the omnipotence of nature (transcendental *physiocracy*), in opposition to the doctrine of freedom, would defend his position against the Sophistical conclusions of that doctrine in the following manner. *If you do not admit something mathematically the first in the world with reference to time, there is no necessity why you should look for something dynamically the first with reference to causality.* Who has told you to invent an absolutely first state of the world, and with it an absolute beginning of the gradually progressing series of phenomena, and to set limits to unlimited nature in order to give to your imagination something to rest on? As substances have always existed in the world, or as the unity of experience renders at least such a supposition necessary, there is no difficulty in assuming that a change of their states, that is, a series of their changes, has always existed also, so that there is no necessity for looking for a first beginning either mathematically or dynamically. It is true we cannot render the possibility of such an infinite descent comprehensible without the first member to which everything else is subsequent. But, if for this reason you reject this riddle of nature, you will feel yourselves constrained to reject many synthetical fundamental properties (natural forces), which you cannot comprehend any more, nay, the very possibility of change in general would be full of difficulties. For if you did not know from experience that change exists, you would never be able to conceive *a priori* how such a constant succession of being and not being is possible.

And, even if the transcendental faculty of freedom might somehow be conceded to start the changes of the world, such faculty would at all events have to be outside the world (though it would always remain a bold assumption to admit, outside the sum total of all possible intuitions, an object that cannot be given in any possible experience). But to attribute in the world itself a faculty to substances can never be allowed, because in that case the connection of phenomena determining each other by necessity and according to general laws, which we call nature, and with it the test of empirical truth, which distinguishes experience from dreams, would almost entirely disappear. For by the side of such a lawless faculty of freedom, nature could hardly be conceived any longer, because the laws of the latter would be constantly changed through the influence of the former, and the play of phenomena which, according to nature, is regular and uniform, would become confused and incoherent.

THE ANTINOMY OF PURE REASON

FOURTH CONFLICT OF THE TRANSCENDENTAL IDEAS

THESIS

There exists an absolutely necessary Being belonging to the world, either as a part or as a cause of it.

PROOF

The world of sense, as the sum total of all phenomena, contains a series of changes without which even the representation of a series of time, which forms the condition of the possibility of the world of sense, would not be given us.[1] But every change has its condition which precedes it in time, and renders it necessary. Now, everything that is given as conditional presupposes, with regard to its existence, a complete series of conditions, leading up to that which is entirely unconditioned, and alone absolutely necessary. Something absolutely necessary therefore must exist, if there exists a change as its consequence. And this absolutely necessary belongs itself to the world of sense. For if we supposed that it existed outside that world, then the series of changes in the world would derive its origin from it, while the necessary cause itself would not belong to the world of sense. But this is impossible. For as the beginning of a temporal series can be determined only by that which precedes it in time, it follows that the highest condition of the beginning of a series of changes must exist in the time when that series was not yet (because the beginning is an existence, preceded by a time in which the thing which begins was not yet). Hence the causality of the necessary cause of changes and that cause itself belong to time and therefore to phenomena (in which alone time, as their form, is possible), and it cannot therefore be conceived as separated from the world of sense, as the sum total of all phenomena. It follows, therefore, that something absolutely necessary is contained in the world, whether it be the whole cosmical series itself, or only a part of it.

[1] As formal condition of the possibility of changes, time is no doubt objectively prior to them (read *dissen* instead of *disser*); subjectively, however, and in the reality of our consciousness the representation of time, like every other, is occasioned solely by perceptions.

ANTITHESIS

There nowhere exists an absolutely necessary Being, either within or without the world, as the cause of it.

PROOF

If we supposed that the world itself is a necessary being, or that a necessary being exists in it, there would then be in the series of changes either a beginning, unconditionally necessary, and therefore without a cause, which contradicts the dynamical law of the determination of all phenomena in time; or the series itself would be without any beginning, and though contingent and conditioned in all its parts, yet entirely necessary and unconditioned as a whole. This would be self-contradictory, because the existence of a multitude cannot be necessary, if no single part of it possesses necessary existence.

If we supposed, on the contrary, that there exists an absolutely necessary cause of the world, outside the world, then that cause, as the highest member in *the series of causes* of cosmical changes, would begin the existence of the latter and their series.[1] In that case, however, that cause would have to begin to act, and its causality would belong to time, and therefore to the sum total of phenomena. It would belong to the world, and would therefore not be outside the world, which is contrary to our supposition. Therefore, neither in the world, nor outside the world (yet in causal connection with it), does there exist anywhere an absolutely necessary Being.

OBSERVATIONS ON THE FOURTH ANTINOMY

I

ON THE THESIS

In order to prove the existence of a necessary Being, I ought not, in this place, to use any but the *cosmological* argument, which ascends from what is conditioned in the phenomena to what is unconditioned in concept, that being considered as the necessary condition of the absolute totality of the series. To undertake that proof from the mere idea of a Supreme Being belongs to another principle of reason, and will have to be treated separately.

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[1] The word *to begin* is used in two senses. The first is active when the cause begins, or starts (infit), a series of states as its effect. The second is passive (or neuter) when the causality begins in the cause itself (fit). I reason here from the former to the latter meaning.

The pure cosmological proof cannot establish the existence of a necessary Being, without leaving it open, whether that Being be the world itself, or a Being distinct from it. In order to settle this question, principles are required which are no longer cosmological, and do not proceed in the series of phenomena. We should have to introduce concepts of contingent beings in general (so far as they are considered as objects of the understanding only), and also a principle according to which we might connect them, by means of concepts only, with a necessary Being. All this belongs to a *trascendent* philosophy, for which this is not yet the place.

If, however, we once begin our proof cosmologically, taking for our foundation the series of phenomena, and the regressus in it, according to the empirical laws of causality, we cannot afterwards suddenly leave this line of argument and pass over to something which does not belong as a member to this series. For the condition must be taken in the same meaning in which the relation of the condition to that condition was taken in the series which, by continuous progress, was to lead to that highest condition. If, therefore, that relation is sensuous and intended for a possible empirical use of the understanding, the highest condition or cause can close the regressus according to the laws of sensibility only, and therefore as belonging to that temporal series itself. The necessary Being must therefore be regarded as the highest member of the cosmical series.

Nevertheless, certain philosophers have taken the liberty of making such a salto (μετάβασις εἰς ἄλλο γένος). From the changes in the world they concluded their empirical contingency, that is, their dependence on empirically determining causes, and they thus arrived at an ascending series of empirical conditions. This was quite right. As, however, in this way they could not find a first beginning, or any highest member, they suddenly left the empirical concept of contingency, and took to the pure category. This led to a purely intelligible series, the completeness of which depended on the existence of an absolutely necessary cause, which cause, as no longer subject to any sensuous conditions, was freed also from the temporal condition of itself beginning its causality. Such a proceeding is entirely illegitimate, as may be seen from what follows.

In the pure sense of the category we call contingent that the contradictory opposite of which is possible. Now we cannot conclude that intelligible contingency from empirical contingency. Of what is being changed we may say that the opposite (of its state) is real, and therefore possible also at another time. But this is not the contradictory opposite of the preceding state. In order to establish that, it is necessary that, at the same time, when the previous state existed, its opposite could have existed in its place, and this can never be concluded from change. A body, for instance, which, when in motion, was A, comes to be, when at rest, = non A. From the fact that the state opposite to the state A follows upon it, we can in no wise conclude that the contradictory opposite of A is possible, and therefore A contingent only. In order to establish this, it would be necessary to prove that, at the same time when there was motion, there might have been, instead of it, rest. But we know no more than that, at a subsequent time, such rest was real, and therefore possible also. Motion at one time, and rest at another, are not contradictory opposites. Therefore the succession of opposite determinations, that is, change, in no way proves contingency, according to the concepts of the pure understanding, and can therefore never lead us on to the existence of a necessary Being, according to the pure concepts of the understanding. Change proves empirical contingency only; it proves that the new state could not have taken place according to the law of causality by itself, and without a cause belonging to a previous time. This cause, even if it is considered as absolutely necessary, must, as we see, exist in time, and belong to the series of phenomena.

II

ON THE ANTITHESIS

If, in ascending the series of phenomena, we imagine we meet with difficulties militating against the existence of an absolutely necessary supreme cause, such difficulties ought not to be derived from mere concepts of the necessary existence of a thing in general. They ought not to be ontological, but ought to arise from the causal connection with a series of phenomena for which a condition is required which is itself unconditioned, that is, they ought to be cosmological, and dependent on empirical laws. It must be shown that our ascending in the series of causes (in the world of sense) can never end with a condition empirically unconditioned, and that the cosmological argument, based on the contingency of cosmical states, as proved by their changes, ends in a verdict against the admission of a first cause, absolutely originating the whole series.

A curious contrast, however, meets us in this antinomy. From the same ground on which, in the thesis, the existence of an original Being was proved, its non-existence is proved in the antithesis with equal stringency. We were first told, that *a necessary Being exists,* because the whole of time past comprehends the series of all conditions, and with it also the unconditioned (the necessary). We are now told *there is no necessary Being,* for the very reason that the whole of past time comprehends the series of all conditions (which therefore altogether are themselves conditioned). The explanation is this. The first argument regards only the *absolute totality* of the series of conditions determining each other in time, and thus arrives at something unconditioned and necessary. The second, on the contrary, regards the *contingency* of all that is determined *in the temporal series* (everything being preceded by a time in which the condition itself must again be determined as conditioned), in which case everything unconditioned, and every absolute necessity, must absolutely vanish. In both, the manner of concluding is quite in conformity with ordinary human reason, which frequently comes into conflict with itself, from considering its object from two different points of view. Herr von Mairan considered the controversy between two famous astronomers, which arose from a similar difficulty, as to the choice of the true standpoint, as something sufficiently important to write a separate treatise on it. The one reasoned thus, the *moon revolves on its own axis,* because it always turns the same side toward the earth. The other concluded, the *moon does not revolve on its own axis,* because it always turns the same side toward the earth. Both conclusions were correct, according to the point of view from which one chose to consider the motion of the moon.

APPENDIX II

Chapter I: Questions

1. What, in your opinion, is the most valuable contribution to thought made by the Milesians? Why?
2. In what way is Anaximander's "Indefinite" an improvement over "water" as the fundamental stuff of the Universe?
3. What are the characteristic shortcomings of the Milesian view of reality? How would you account for them?
4. What did the Pythagoreans mean when they said that "All is number"?
5. What is the fundamental difference between the Milesians and the Pythagoreans?
6. What features of preceding philosophies appear in the speculations of Parmenides?
7. What flaws, if any, do you find in the arguments upon which Parmenides bases his views as to the characteristics of reality?
8. In precisely what respects do the results of our experience conflict with the theories of Parmenides?
9. Does Zeno's disproof of the reality of motion convince you? Why?
10. In what sense is the presupposition that the world is intelligible necessary to philosophy? Indicate its rôle in early Greek philosophies.
11. Which of the philosophies already treated seems to have most in common with contemporary science? Why?
12. Define philosophy on the basis of the philosophies studied thus far.
13. What is the chief resemblance between Heraclitus and Parmenides? The chief dissimilarity?
14. How would you amend the Empedoclean theory of change in order to meet the criticism made in the text?

15. What features of earlier philosophies appear in the theory of Democritus?
16. What do you consider to be the outstanding weaknesses of an atomic theory such as that of Democritus?

TOPICS FOR INDIVIDUAL RESEARCH

1. The "Indefinite" of Anaximander as an anticipation of the notion of extension.
2. The influence of Pythagoreanism on the metaphysics and epistemology of Plato, as exemplified in the "Timæus."
3. The implications for metaphysics of the Pythagorean dictum that "All is number" (*i.e.,* mathematical laws).
4. The logical bases of Eleatic dialectic, and a suggestive summary of its influence on subsequent Greek philosophy.
5. Zeno's arguments against the reality of motion, with particular reference to the problem of the discrete and the continuous.
6. The contributions of the Milesians and Eleatics to the development of the atomic materialism of Democritus.
7. Theories of motion in early pre-Socratics.
8. Influence of mathematics on early Greek thought.
9. Psychological interpretation of Milesian, Pythagorean, and Eleatic thought.
10. Post-relativity physics as an expression of Pythagorean thought.
11. Criticism and comparison of the theories of knowledge of Democritus and Empedocles.
12. Theories of space in pre-Socratic philosophy.
13. The problem of the one and the many in early Greek philosophy.
14. The relativism of Heraclitus.

Chapter II: Questions

1. What are the chief similarities and differences between Anaxagoras and Democritus?
2. To what extent does Anaxagoras carry on the tradition of Empedocles? What differences do you note between them?
3. Which seems a more reasonable account of the origin of things—qualitative or quantitative atomism? Why?
4. In what way is Protagoras's reversion to Heraclitianism a reac-

tion against the atomism of Democritus? What striking difference remains between Heraclitus and Protagoras?

5. What plausible interpretations of the Protagorean dictum—"Man is the measure of all things"—can you suggest? Differentiate between them.
6. What criticisms would you advance against Sophistic ethics as a whole?
7. Does the relativity of knowledge render objective truth impossible? If so, in what sense?
8. To what extent was Socrates a Sophist?
9. What rôle does Pythagoreanism play in the ethics of Socrates?
10. How does Socratic ethics escape pure individualism?
11. What do you understand by the method of induction? Indicate how Socrates used it in arriving at the notion of the Good.
12. What does the term good-in-itself signify? What for Socrates is the good-in-itself?
13. What sort of reality do "ends" have for Socrates?
14. What contrast in *general characteristics* do you find between colonial and Athenian philosophy? How would you account for this?

TOPICS FOR RESEARCH

1. Exposition and critical comparison of qualitative and quantitative atomism.
2. Development of the concept of the "immaterial" in early Greek philosophy.
3. Reconstruction of a Sophistic metaphysics and ethics on the basis of the Platonic dialogues.
4. Analysis of the epistemological and metaphysical background and import of the Protagorean relativity of sense-impression.
5. Critical comparison of Socratic and Sophistic ethics.
6. Historicity of Socrates.
7. Analysis of Socratic ethics, with particular regard to the divergent schools which arise from it.
8. The good-in-itself.
9. The doctrine of the mean.

CHAPTER II: QUESTIONS (*continued*)

1. To what extent is Aristippus a Protagorean? Explain the inner contradiction in Cyrenaic ethics.
2. How does Cynicism follow from the teachings of Socrates?
3. What is the fundamental similarity between the Cynics and the Cyrenaics?
4. What contribution does Socrates make to the philosophy of Plato?
5. What are the Platonic "ideas"?
6. Is Plato a substantial monist or dualist?
7. How does Plato explain knowledge of "forms" or "ideas"?
8. How are "ideas" related to particulars?
9. What, in detail, is Plato's notion of justice (a) in the individual, (b) in the state?
10. How does this notion of justice exemplify the Greek search for *"physis"?*
11. What traces of early philosophies do you find in Plato? Illustrate.
12. Compare and contrast Plato and Democritus.

TOPICS FOR RESEARCH (*continued*)

1. Logical and metaphysical bases of Cynic and Cyrenaic ethics.
2. Evidences of contemporary satire in the dialogues of Plato.
3. Place of the myth in Platonic philosophy.
4. The Platonic dialectic.
5. Mathematical bases of Plato's philosophy, with reference particularly to the "Timæus."
6. Plato's conception of the Good—(the mathematico-rationalistic *vs.* the ethico-religious interpretation).
7. Analysis of the Theory of Ideas.
8. Plato's theory of knowledge, in its metaphysical setting.
9. Plato's theory of education.
10. Critical analysis of Plato's *Republic.*

CHAPTER II: QUESTIONS (*continued*)

1. How does Aristotle bridge the dualism left by Plato?
2. What fundamentally is the significance of the "four causes"?

3. What function does the notion of "potentiality" fulfil in the philosophy of Aristotle?
4. In what way does Aristotle's logic follow from his metaphysics?
5. In what respect does his psychology seem to contradict his metaphysics?
6. What is the fundamental scientific method of Aristotle?
7. How would he go about formulating a theory of education?
8. To what extent are the ethical ideals of Plato and Aristotle alike?
9. What is the most fundamental difference between Plato and Aristotle? Explain.
10. Which of the two, do you think, is more in accord with contemporary science? Why?

TOPICS FOR RESEARCH (*continued*)

1. Generalized comparison and contrast of Platonism and Aristotelianism.
2. Aristotle's conception of the physical universe.
3. The rôle of the "four causes" in the philosophy of Aristotle.
4. Greek psychology.
5. Platonic and Aristotelian æsthetics.
6. The doctrine of the mean.
7. Analysis of the concept of substance in Aristotle.
8. Biological foundations of Aristotelianism, with particular reference to the problem of organization.
9. Critical and comparative examination of atomic materialism, Platonism, and Aristotelianism.
10. Aristotelian conception of change.

Chapter II: Questions (*continued*)

1. What is the common objective of Pyrrhonism, Epicureanism, and Stoicism? How do they differ in their attainment of it?
2. What do you understand by Scepticism? What are the bases of Greek Scepticism?
3. What two philosophical traditions unite in Epicurus? What contribution, if any, does he make to each?
4. How does Epicurus attempt to free humans from their fears?
5. In what sense is Stoicism more profound than Epicureanism?
6. What is the status of the individual in Stoic cosmology?

7. What is the basis of cosmopolitanism in Stoic philosophy?
8. Indicate briefly how each of these three philosophies prepares the way for Christianity.
9. Define philosophy on the basis of the philosophies in Chapter II. How does this definition differ from one based on colonial speculation?

TOPICS FOR RESEARCH (*continued*)

1. Idea of freedom in Greek ethics.
2. Origin and development of Scepticism in Greek philosophy.
3. Epicurus and Democritus: comparison and contrast.
4. Stoic logic: comparison and contrast with Aristotelian logic.
5. The cosmology of the Stoics.
6. Summary and characterization of Athenian thought in general.

Chapter III: Questions

1. What is the fundamental difference between Hellenic and oriental speculation?
2. What part does Stoicism play in the philosophy of Philo?
3. To what extent is Philo a Platonist? What changes does he introduce?
4. What, briefly, is the origin of the identification of matter and evil? What rôle does it perform in Philo?
5. How does Philo fill the gap left by Plato?
6. What, in your opinion, do the "Ten Tropes" prove concerning the possibility of objective knowledge?
7. What, briefly, are the disturbing implications of the principle that causes and effects must be similar? What solution or solutions of the difficulty can you advance?
8. What is the point of Ænesidemus's attack on ethics?
9. What is the historical significance of his work?
10. What is the chief significance of the Neo-Pythagorean movement?
11. What relation does it bear to Platonism?
12. What essentially Platonic doctrines are found in Plotinus?
13. What important changes does Plotinus introduce into them?
14. In what way is Plotinus influenced by Neo-Pythagoreanism?
15. How does he differ from Philo?

16. What, precisely, is Plotinus's view of the soul?
17. What for him is beauty?
18. Is Plotinus a pantheist?
19. Distinguish and summarize briefly the Platonic, Pythagorean, and Aristotelian elements in Plotinus.

TOPICS FOR RESEARCH

1. Survey of Alexandrian thought.
2. Analysis of Philo's philosophy—with particular reference to his relation to Platonism.
3. The Logos in late Greek thought.
4. The problem of evil in *early* Neo-Platonism.
5. Scepticism in Greek philosophy.
6. Eclecticism in Greek philosophy—illustrative summary.
7. Number-mysticism and early Christianity.
8. Critical history of mathematical philosophy in Greece.
9. Survey of the sources and historical background of Plotinus's philosophy.
10. Plotinian æsthetics.
11. Analysis of his metaphysics.
12. The immortality of the soul in Greek thought.
13. The influence of mysticism on Greek thought—sixth century B. C. to Plotinus.

Chapter IV: Questions

1. What was Origen's view concerning the limits of God's power?
2. How does St. Augustine employ Platonism in his treatment of Christian morality?
3. What is the Augustinian conception of freedom?
4. What, briefly, are the chief characteristics of Christian civilization after St. Augustine?
5. How does Boethius answer the problem of freedom?
6. What specific cosmology results from the union in Scotus Erigena of Dionysius and Porphyry?
7. What is the position of God in such a cosmology?
8. What answer to the problem of universals does Catholicism seem to require? Illustrate.

9. What arguments can you offer in support of the nominalistic position of Roscellinus?
10. What is St. Anselm's proof of the existence of God? How does it follow from his view of universals?
11. What difficulties beset William of Champeaux's realism? How did he meet them?
12. What solution of the problem of universals does Abelard offer?
13. What is the ethical purport of St. Bernard's teachings?
14. Why are St. Anselm, Erigena, Abelard, and St. Thomas termed rationalists? Illustrate.
15. What philosophical problems serve as Hegel's point of departure?
16. What is St. Thomas's theory of knowledge?
17. What is his view of universals?
18. What is the fundamental difference between the Thomist and Scotist conceptions of God?
19. What are the political implications of each of the two opposing philosophies?
20. What is the rôle of the individual in the philosophy of Duns Scotus?
21. Describe briefly the period of "maximum unification." What forms did protests against it take?
22. What are the chief problems of mediæval philosophy? How does each arise?
23. What (and by whom) are the main stands taken with respect to these problems?

TOPICS FOR RESEARCH

1. Influence of St. Augustine on mediæval political theory.
2. Erigena and the Catholic faith.
3. Problem of freedom in St. Augustine, Boethius, and Erigena.
4. Influence of Plotinus on mediæval thought.
5. The ontological proof of the existence of God.
6. Historical and analytical survey of the problem of universals.
7. Science in the "Dark Ages."
8. Underlying causes of the intellectual Renaissance.
9. St. Thomas and Aristotle.
10. The voluntaristic tradition in mediæval thought.
11. The problem of freedom in St. Thomas and Duns Scotus.
12. Mediæval theories of knowledge.

13. Historical survey of Platonism, to the Italian Renaissance.
14. Historical survey of Aristotelianism, to the Italian Renaissance.

CHAPTER V: QUESTIONS

1. What were the immediate causes of the cultural Renaissance in Italy?
2. What is the ethical significance of Copernican astronomy?
3. What contributions did Ficino and Pico make to the history of philosophy?
4. How did Platonism influence Renaissance physical science?
5. What is Pomponazzi's great innovation? Illustrate from his treatment of the problem of immortality.
6. What ethical implications did he draw from his view on immortality?
7. What are the essential doctrines of Machiavelli?
8. What are his shortcomings?
9. Summarize briefly the evidence of a disintegration of authority in Pomponazzi, Machiavelli, and Telesio.
10. With what did Telesio replace the Aristotelian doctrine of matter and form?
11. Are Telesio's arguments for the sentiency of matter valid? Why?
12. What, in detail, is his conception of change? Criticize it.
13. How does it influence his ethics?
14. By what reasoning does Bruno arrive at the notion of an infinite number of worlds?
15. What evidence of voluntarism does his thought exhibit?
16. What rôle does atomism play in Bruno's thought?
17. Characterize, briefly, the development of Italian philosophy as treated in this chapter.

TOPICS FOR RESEARCH

1. The underlying and immediate causes of the downfall of scholastic Aristotelianism.
2. Italian Neo-Platonism—its character and significance.
3. Influence of Platonism on the tacit assumptions of Renaissance physical science.
4. Machiavellianism.

5. The sources and significance of Telesio.
6. Brief history of voluntarism—Franciscans through Bruno.
7. Renaissance atomism.
8. Ethical theory in the Italian Renaissance.
9. Influence of alchemy on science.
10. The rise of nationalism.
11. Galileo, and the history of mechanics.

Chapter VI: Questions

1. What is the Baconian method? To what extent is it accepted by contemporary science?
2. What are the four types of "phantoms"? How can one escape them?
3. What is Bacon's significance for the history of philosophy?
4. What is Hobbes's theory of the universe? What distinction between appearance and reality results?
5. Does Hobbes hold to a dualism of mind and matter? Explain.
6. Indicate how his ethical and political theories are patterned on his metaphysics.
7. What are the characteristic features of Cambridge Platonism?
8. What is Lord Herbert's problem? Briefly, how does he solve it?
9. Why, and in what direction, does Cudworth react against the philosophy of Hobbes?
10. Expound and criticize More's arguments for the innateness of mathematical concepts, relative notions, and axiomatic truths.
11. To what aspect of Cambridge Platonism does Burthogge contribute?
12. In what way is Collier's work the logical culmination of the English Platonistic movement?
13. How would you answer his arguments against the existence of an external world?
14. What is the philosophic import of Newtonian physics?
15. What interests characterize the work of Locke?
16. Do his arguments against innate ideas meet the point? Why?
17. How does he define, classify, and associate ideas?
18. What are his arguments for the subjectivity of secondary qualities?

19. What, briefly, do his investigations indicate concerning the nature, extent, and certainty of knowledge?
20. To what extent is the criticism valid that Locke gives a theory of truth but no means of verification?
21. How far does Berkeley accept Locke? Indicate the significance of the doctrine accepted.
22. What is Berkeley's position with regard to primary and secondary qualities? How is it substantiated?
23. What is his method of escaping complete subjectivism? What inconsistency is involved?
24. In what way does Hume represent the logical consequence of British empiricism?
25. What is the ultimate basis of his arguments concerning substance and causality?
26. Suggest and defend an opposing position.
27. How would Locke, Berkeley, and Hume describe the following situation: I hear a bell.

TOPICS FOR RESEARCH

1. Baconian induction and modern science.
2. Bacon and Aristotle.
3. The sources and influence of the political atomism of Hobbes.
4. Cambridge and Florentine Platonism in the light of classical doctrines.
5. The influence of Cambridge Platonism on Newton.
6. The problem of innate ideas.
7. The ontological status of secondary qualities.
8. Berkeley and the relational theory of space and time.
9. Platonism in Berkeley.
10. The logical bases of subjectivism.
11. Hume on causality.
12. The problem of the self.
13. The tacit assumptions of British empiricism.
14. Psychological atomism in English philosophy, through Hume.
15. An escape from Humian scepticism.
16. The mind-matter problem in Locke, Berkeley, and Hume.
17. Influence of Greek philosophy on English thinkers of the seventeenth and eighteenth centuries.
18. The "generative" theory of perception in Locke.

CHAPTER VII: QUESTIONS

1. What are the essential features of the method of Descartes? What criticisms can you offer?
2. What proof does he give of his two fundamental premises? What is his criterion of truth?
3. How is the existence of matter proved? What is its nature?
4. Criticize his solution of the mind-matter problem.
5. What are the fundamental differences between Gassendi and Descartes?
6. What are the chief features of Gassendi's theory of knowledge?
7. In what way is Occasionalism unsatisfactory as an answer to the mind-matter problem?
8. What are the implications of Malebranche's theories of (a) motion, (b) knowledge?
9. What are the ethical consequences of Geulincx's metaphysics?
10. What are the fundamental presuppositions of Spinoza?
11. How does he solve the problem of the nature and relation of mind and matter?
12. In what sense is his philosophy (a) monistic, (b) dualistic, (c) pluralistic?
13. What is his theory of freedom?
14. What are the limitations of reason as propounded by Pascal? By Bayle?
15. What was the fundamental problem of early eighteenth-century French philosophy? Distinguish between the two anti-clerical parties.
16. In what way does La Mettrie continue Cartesianism? What is his theory of motion?
17. Describe briefly the culmination of materialism in Holbach.
18. What rôle does Helvétius perform in the history of French thought?
19. Outline briefly Condillac's analysis of knowledge.
20. What is the weakness in his account of the idea of an external world?
21. What was ideology? Summarize its development in Destutt de Tracy, Cabanis, and Laromiguière.

22. What arguments does Rousseau advance against Sensationalism? What is his substitute for it?
23. What is his theory of education? Of society?
24. What evidence of voluntarism do you find in him? Of rationalism?
25. What form does sentimentalism take in Bernardin de Saint-Pierre?

TOPICS FOR RESEARCH

1. Descartes and the mechanistic biology.
2. Innate ideas in Descartes and Locke.
3. The place of Gassendi in the history of materialism.
4. Malebranche's theory of knowledge.
5. Psychophysical dualism and the postulate of causal adequacy.
6. Psychophysical parallelism as an answer to the mind-matter problem.
7. Logical determinism in Spinoza.
8. Spinoza and Plato.
9. The psychology of emotions in Descartes, Spinoza, and William James.
10. The influence of Locke on the French Encyclopædists.
11. The problem of motion in materialistic philosophy.
12. A critique of eighteenth-century French materialism in the light of contemporary science.
13. The sensationalistic theory of knowledge—and the problems of self, space, time, and matter.
14. Historical analysis of sentimentalism.
15. Rousseau and French primitivism.
16. The problem of the activity and passivity of mind.

CHAPTER VIII: QUESTIONS

1. How does Leibnitz's theory of matter differ from that of Descartes?
2. On what grounds does Leibnitz deny interaction? What is his answer to the mind-matter problem?
3. What are the Leibnitzian monads?
4. In what sense is the monad free?
5. Is Leibnitz a pluralist or a monist? Why?

6. Indicate briefly the development of philosophical nationalism in Lessing and Herder.
7. To what extent does the Kantian analysis of knowledge hark back to Hume and Rousseau?
8. What, fundamentally, does Kant mean by a "category" of the understanding? In what sense is it *a priori?*
9. What are the metaphysical consequences of his theory of knowledge?
10. What evidence does he offer of the limitations of Pure Reason? Of the primacy of Practical Reason?
11. In what does Fichte depart from his predecessor?
12. What are the basic features of Fichtean idealism?
13. What is the fundamental thought in the Schellingian system? How is it related to the philosophy of Fichte?
14. What are the philosophical bases of Schelling's theory of art?
15. What philosophical problems serve as Hegel's point of departure?
16. What are the chief presuppositions of his theories of truth and reality?
17. What do you mean by the dialectic of Hegel? Illustrate.
18. What theory of the state results from the Hegelian system?
19. Trace the notion of synthesis in Kant, Fichte, Schelling, and Hegel.
20. To what extent does the philosophy of Schopenhauer go "back to Kant"?
21. Why is Schopenhauer a pessimist?
22. How is art an escape?
23. Indicate the three fundamental influences at work in the philosophy of Nietzsche.
24. What does he mean by slave morality? By the Superman?
25. Summarize briefly the chief steps in the development of voluntarism in German philosophy.

TOPICS FOR RESEARCH

1. Leibnitz and Descartes.
2. Leibnitz's theory of matter.
3. The problem of freedom in Leibnitz.
4. The place of Leibnitz in the history of logic.
5. The Kantian theory of knowledge.

6. Kant's theories of space and time in the light of contemporary mathematics and physics.
7. Will and Reason in the Kantian system.
8. Kant and Fichte.
9. The idea of a scale of being in Leibnitz and Schelling.
10. Hegelian idealism and the internality of relations.
11. The Hegelian dialectic.
12. Spinoza, Leibnitz, and Hegel.
13. The philosophy of pessimism.
14. Æsthetic theory in German idealism.
15. The influence of Nietzsche.
16. Voluntarism in the nineteenth century.

CHAPTER IX: QUESTIONS

1. What are the chief characteristics of traditionalism?
2. In what way does Ballanche part from Bonald and Maistre?
3. What consequences of traditionalism does Lamennais work out?
4. To what extent is Biran an ideologist?
5. What fundamental issues lead him to depart from ideology?
6. What are the basic tenets of Cousin?
7. How are Ravaisson's speculations related to those of Biran and Schelling?
8. In what do they differ from the eclecticism of Cousin?
9. In what specific respect is Boutroux's work an elaboration of Ravaisson?
10. Criticize his theory of contingency.
11. In what way do traditionalism and ideology prepare the way for positivism?
12. Outline Comte's doctrine of the three stages, indicating the political implications of each.
13. What for him is the place of sociology in the hierarchy of sciences?
14. How is Renouvier's philosophy related to the Kantian system?
15. How does his pluralism provide freedom?
16. What is the status of the individual in such a scheme?
17. Discuss the immediate antecedents of the Bergsonian philosophy.
18. Criticize the doctrine of the *"élan vital."*

19. What is Bergson's answer to the mind-matter problem?
20. What justification is there for his basic epistemological distinction between reason and intuition?
21. What is his theory of intelligence and instinct? Illustrate from human and insect life.
22. Indicate briefly his influence.
23. What are the outstanding weaknesses of the Bergsonian philosophy?
24. What are the fundamental issues in nineteenth-century French philosophy?
25. What are the chief foreign philosophical influences at work?

TOPICS FOR RESEARCH

1. The idea of progress in French philosophy.
2. Catholic philosophy in France.
3. The rôle of "effort" in French thought.
4. Victor Cousin: a study in eclecticism.
5. Boutroux and philosophical indeterminism.
6. French positivism.
7. Renouvier and neutral monism.
8. Vitalism in biological philosophy, with special reference to Bergson's *Creative Evolution*.
9. Bergson's theory of time.
10. Intuition and reason in the Bergsonian philosophy.
11. The influence of Bergson on French literature and art.
12. The influence of Kant on nineteenth-century French philosophy.
13. Ravaisson and Schelling.
14. A critique of anti-intellectualism.
15. The philosophical sources of Bergson.

Chapter X: Questions

1. What fundamental modifications does Reid introduce into the philosophy of Hume?
2. Indicate the Kantian tendencies in Stewart, Brown, and Hamilton.
3. What is utilitarianism?
4. What are its weaknesses as exemplified in Bentham?

5. What are the chief inadequacies of the psychology contributed to utilitarianism by James Mill?
6. To what extent does John Stuart Mill depart from the position of Bentham?
7. What is the religious and social significance of the Oxford movement?
8. What is its philosophical importance, as elaborated by Newman?
9. What is the essence of Green's attack on empiricism?
10. What, in detail, is the keynote of English Hegelianism?
11. In which direction does Bradley develop the philosophy of Green?
12. Compare Bradley and Bergson on feeling and thought.
13. What is the significance for English idealism of the work of Bosanquet?
14. Contrast briefly idealism and naturalism as exemplified in English philosophy of the nineteenth century.
15. What is evolution?
16. What are the chief answers to the problem of its *modus operandi?*
17. Explain Spencer's formula for evolution. Suggest some one application of it made by him.
18. What is the basic feature of Spencerian ethics?
19. What is the Spencerian "unknowable"? How is it treated by Huxley?
20. What is the point of Moore's refutation of idealism?
21. Contrast briefly the views of Russell and Alexander.
22. What is emergent evolution?

TOPICS FOR RESEARCH

1. The rôle of common sense in modern English philosophy.
2. Scottish realism—its philosophical antecedents and influence.
3. Ideology and utilitarianism.
4. The political implications of utilitarianism.
5. Association psychology and the problem of relations and class-concepts.
6. The relations of philosophy and religion in modern English thought.
7. The activity of the mind in knowing—with particular reference to English philosophy of the nineteenth century.
8. The problem of the individual in absolutistic idealism.

9. The problem of relations in Bradley and Bosanquet, Moore and Russell.
10. The metaphysics of naturalism—illustrated from the works of Spencer and Huxley.
11. The influence of evolutionism in contemporary art, literature, and science.
12. Evolutionistic ethics.
13. Emergent evolution.
14. Comparison and contrast of the earlier and later views of Bertrand Russell.
15. Contemporary English realism.

Chapter XI: Questions

1. How does Neo-Platonism manifest itself in the Concord School?
2. Indicate Emerson's influence on modern educational policy.
3. Criticize Royce's doctrine of the purposiveness of ideas.
4. What is his answer to the problem of the status of individuals?
5. What are the fundamental presuppositions of pragmatism?
6. Indicate the philosophical antecedents and import of the Jamesian pragmatism.
7. What criterion of value does Dewey offer?
8. In what way does the evolutionism of Fiske pave the way for realism?
9. Summarize Santayana's main positions.
10. What is the "ego-centric predicament"?
11. How do the New Realists escape from it?
12. Suggest the various foreign traditions imported into American thought.

TOPICS FOR RESEARCH

1. Scepticism and theology in early American philosophy.
2. Jefferson and the French ideologists.
3. American Hegelianism.
4. The metaphysics of pragmatism.
5. Comparison and contrast of Critical Realism and New Realism.
6. The "mind-stuff" theory in Critical Realism.
7. Neutral monism and the New Realists.
8. The philosophy of science in America.

Chapter XII: Questions

1. What are the fundamental tenets of Vico's *New Science?*
2. Estimate Rosmini's attack on subjectivistic and empiricistic theories of knowledge.
3. What view does he advance in their stead?
4. To what extent does the philosophy of Gioberti overcome the dualism left by Rosmini?
5. How does Spaventa interpret the dialectic of Hegel?
6. In what way does the work of De Sanctis supplement that of Spaventa?
7. Summarize Croce's analysis of the modes of spiritual expression.
8. What is his relation to his predecessors?
9. Contrast Croce and Hegel.
10. In what way does Gentile react against the philosophy of Croce?

TOPICS FOR RESEARCH

1. The influence of Vico on Italian philosophy.
2. Hegelianism in Spaventa and Croce.
3. Italian æsthetics.
4. Fascism and the philosophy of Gentile.
5. Comparison and contrast of Croce and Gentile.
6. Voluntarism in Italian philosophy.

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CHAPTER XII

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Faults

I Overemphasis on oriental influence
on early Greek philosophy

II False impression that we know as little
of Anaximander as of Thales. N
glect of Anaximander

III Omission of all German philo
ophy since Nietzsche

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in connection with pragm
tism

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But we may regard it a
a phenomenon in America
philosophy as well as an
exposition of the history
of philosophy.